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No. 1——, Original.

In the Supreme Court of the United States.

OCTOBER TERM, 1917.

THE STATE OF GEORGIA, PLAINTIFF,

v.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY, LIMITED, DEFENDANTS.

BRIEF OF THE SOLICITOR GENERAL AS AMICUS CURIÆ AND IN BEHALF OF THE UNITED STATES.

WASHINGTON : GOVERNMENT PRINTING OFFICE : 1918

In the Supreme Court of the United States.

OCTOBER TERM, 1917.

THE STATE OF GEORGIA, PLAINTIFF,
v.
THE TENNESSEE COPPER COMPANY AND The Ducktown Sulphur, Copper and Iron Company, Limited, defendants.

No. 1——, Original.

BRIEF OF THE SOLICITOR GENERAL AS AMICUS CURIÆ AND IN BEHALF OF THE UNITED STATES.

The United States has not heretofore had an interest in this litigation. But early in the present year the need of the Government for copper and sulphuric acid in carrying on its war operations became so urgent that the chairman of the War Industries Board of the Council of National Defense, acting for himself and the Secretary of the Navy, addressed a letter to the Attorney General requesting him to endeavor to secure such a modification of the injunction in this case as would enable the defendant company, The Ducktown Sulphur, Copper and Iron Company, Limited, to increase its output of both of the above-named products, saying:

> There is a grave shortage in sulphuric-acid production, and we have been utilizing the

> entire copper production of the United States in our military program. Both of these materials are fundamental in the manufacture of our war munitions, and anything that can be done to stimulate their production will be of benefit.

The United States not being a party to the pending litigation, the Attorney General could not ask for a modification of the injunction, but, believing that the officials of the State of Georgia would not object to a reasonable and temporary modification of the injunction, he advised that they be requested not to oppose an application to that effect.

And on April 19 last the Acting Secretary of the Navy addressed to the Attorney General the following communication:

> In accordance with the suggestion stated in your letter to Mr. B. M. Baruch, Chairman of the War Industries Board, February 7, 1918, concerning the sulphuric acid and copper production of The Ducktown Sulphur, Copper and Iron Company, a letter was forwarded to the Attorney General of the State of Georgia in accordance with the attached copy, to which no reply has been received.
>
> Since it is desired to stimulate the production of sulphuric acid and copper at this time, it is desired to inquire whether there is any further action which might consistently be taken to secure the modification of the injunction which limits the production of these materials by The Ducktown Sulphur, Copper and Iron Company.

Accordingly, the defendant, The Ducktown Sulphur, Copper and Iron Company, Limited, having filed a motion to modify the injunction, it is deemed proper to present the interest of the United States in the matter; and a copy of this brief having been furnished to the attorney general of Georgia, the following propositions are submitted in support of the defendant's motion:

(1) If the officials of the State of Georgia do not appear to oppose the motion, it should be assumed that they have patriotically yielded to the appeal made to them by the Secretary of the Navy, and the modification asked should be made as of course.

(2) If opposition is interposed, it should be overruled, because any possible damage that could result from the slight modification asked ought not to weigh against the need of the Nation, in its hour of peril, to use its resources for the common good and the safety of the country.

Respectfully submitted.

JOHN W. DAVIS,
Solicitor General.

MAY, 1918.

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Supreme Court of the United States.

October Term, 1[redacted] 1912.

No. [redacted]—Original.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, PLAINTIFF,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), DEFENDANTS.

IN EQUITY.

EVIDENCE PRODUCED BY COMPLAINANT ON FINAL HEARING.

JOHN C. HART,
Attorney-General of Georgia.

LIGON JOHNSON,
Solicitor for Complainant,
ATLANTA, GA.

THE FRANKLIN-TURNER COMPANY, ATLANTA, GA.

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TESTIMONY and EXHIBITS

OF

COMPLAINANT

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,

Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),

Defendants.

} In Equity.

TESTIMONY AND EXHIBITS OF THE COMPLAINANT, THE STATE OF GEORGIA, UPON FINAL HEARING.

LETTER OF DEFENDANTS PROPOSING TO ABANDON OLD METHOD FOR ONE CLAIMED TO REMEDY THE NUISANCE.

February 9, 1904.

Gov. Jos. M. Terrell, Atlanta, Ga.

DEAR SIR: Referring to the proceeding instituted by the State of Georgia *v.* The State of Tennessee *et al.*, I beg to advise you that as President of the Tennessee Copper Co., one of the co-defendants in this suit, that we are now preparing to make such changes in our smelting operations that I am of the opinion, and in fact can guarantee to you, that by the 1st of August, 1904, we will have ceased producing smoke from our

roast yards. At the present time the Ducktown Sulphur, Copper and Iron Co. has entirely ceased roasting any ore and the roast yards are abandoned. The Tennessee Copper Company is awaiting the installation of a third blowing engine, and when this is erected, so that the third furnace may be put in operation, they also intend to cease putting any more green ore upon the roast yards. This date we presume will be about the 1st of April.

I desire to call your attention to the fact that it takes from three to four months to roast ore after it has once been lighted, and, therefore, it is physically impossible to stop the roasting when it is once under way. To be concise, our proposed method of smelting, which is now in successful use by the Ducktown Company, is to smelt the green ore directly in blast furnaces without preliminary roasting. The result is that, instead of producing smoke, only a gas is produced, which being heated and concentrated, immediately rises to a great elevation and becomes so diluted with air as to be practically dissipated.

I call your attention to our intentions in this matter, so that you may postpone any action against us until such times as we have demonstrated the practical success of this new method, and which, as I say, we have every reason to believe will be in full operation in August or September of this year.

Yours very truly,

(Signed) J. PARK CHANNING,
Pres. Tennessee Copper Co.

On behalf of the Ducktown Sulphur, Copper and Iron Company (Ltd.) I beg to state the discovery of a new process has enabled this company to abolish the former practice of roasting its ore, that the new process is now in actual and successful operation, and that the roasting of ore will not again be resumed.

(Signed) W. H. FREELAND,
Gen. Mgr. Ducktown S., C. & I. C. (Ltd.).

AGREEMENT TO ABANDON OLD PROCESS AND TO DISMISS CAUSE.

In the Supreme Court of the United States.

OCTOBER TERM, 1903.

THE STATE OF GEORGIA,

vs.

THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY, THE TENNESSEE COPPER COMPANY, AND THE PITTSBURG AND TENNESSEE COPPER CO.,

Defendants.

} In Equity.

WHEREAS, The State of Georgia filed its bill in equity against the above-named defendants on the day of 1904, in the Supreme Court of the United States, which suit is now pending, in which bill of complaint it is alleged by the State of Georgia that her public domain is injured by the defendant copper companies above named by the certain sulphurous smoke, fumes, and gases originated by the defendants in the operation of their open roast-heaps for treating copper and sulphur ores; and

WHEREAS, At the time said suit was filed the Ducktown Sulphur, Copper and Iron Company (Limited) and the Pittsburg and Tennessee Copper Company was no longer roasting their ores in the open beds or roast-heaps, producing the alleged dense smoke and attendant fumes and gases complained of; and

WHEREAS, The Tennessee Copper Company, since the filing of the bill in this cause, has abandoned the roasting process, and has lighted its last roast-heap, and that each and all of said companies have heretofore and by this agreement declared

that after the present ignited heaps have burned out neither of them will again return to said method of roasting their ores, of which method the State of Georgia especially complained:

It is therefore agreed between the State of Georgia and the defendants, in consideration of this stipulation on the part of said companies not to return to said method of roasting their said ores, that an order shall be entered specifying that said bill shall be dismissed.

It is further agreed that this stipulation and agreement shall be made a part of and filed in said case, and an order of dismissal issued in accordance therewith.

It is further stipulated that the dismissal of said suit shall in nowise be construed as an adjudication of any of the questions involved therein, and that it shall not operate to the prejudice of the rights of either or any of the parties beyond the terms of this agreement.

The Tennessee Copper Company.
By HOWARD CORNICK, of counsel.

The Pittsburg and Tennessee Copper Co.
By HOWARD CORNICK, of counsel.

The Ducktown Sulphur, Copper and Iron Co. (Ltd.).
By W. H. FREELAND, General Manager.

The State of Georgia.
By JOHN C. HART, Atorney-General of Georgia.
LIGON JOHNSON, Special Attorney.

AFFIDAVIT OF J. K. HAYWOOD, U. S. CHEMIST.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

UNITED STATES OF AMERICA,
District of Columbia.

Personally appeared, J. K. Haywood, who, being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is a chemist by profession, and is now Chief of the Miscellaneous Laboratory, Bureau of Chemistry, United States Department of Agriculture.

Deponent, in his official capacity, and under the direction of the Bureau of Chemistry, made for said Bureau at the request of the Bureau of Forestry, an investigation of the territory in and around the locality of Ducktown, Tennessee, for the purpose of determining whether or not the fumes of the copper plants in that vicinity were injurious to vegetation and the extent of same. These copper plants are located in a depression in the mountains of southeastern Tennessee, southwestern

North Carolina and northern Georgia, the depression being greatest in length in the southeasterly and northwesterly direction, and shortest toward the west and eastward.

In the process of reducing ore and extracting copper, used by said copper plants, the sulphur originally present in said ore is burned and given off in the air principally as sulphur dioxid, but to some extent as sulphur trioxid. For each pound of sulphur burned, two pounds of sulphur dioxid are formed and given off into the atmosphere, a part of which acts directly on the foliage of the trees and plant life generally. Sooner or later, however, all of the sulphur dioxid is changed by action of the oxygen of the air into sulphur trioxid. The moisture present in the air unites with this sulphur trioxid to form the highly corrosive compound sulphuric acid, which, in its turn acts upon the delicate foliage.

Prior to the investigation at Ducktown, and in connection with the investigation made by the United States Bureau of Chemistry as to the injuries to vegetation from fumes arising from the copper smelting works of the Mountain Copper Company near Redding, Shasta county, California, deponent made full experiments in said Bureau of Chemistry in order that he might verify from his individual experience the effect of the sulphur dioxid upon plant life, and from said experiments, as well as experiments made by others, it was conclusively demonstrated that sulphur dioxid was destructive to plant life, and that when present, even in very small quantities in the air, kills vegetation.

Under the processes now in vogue in the Ducktown locality, the fumes are liberated from smokestacks or chimneys, and, consequently, are much stronger at their point of exit from the chimney by reason of their concentration and liberation from these necessarily narrow and circumscribed localities, than those generated and given off from open roast heaps and yards of equal capacity. Owing to the fact that the stacks or chimneys through which the fumes are liberated are quite low as compared with the surrounding country, the plants being located in the valleys or depressions, as heretofore stated, the gases do not have a very good chance to diffuse into the circumambient atmosphere before they are swept by the wind cur-

rents down the valleys, along the water-courses, and over the higher wooded ridges and hills of the surrounding regions.

The injuries done to surrounding vegetation, within the radius of the harmful influence of the sulphur dioxid is very great. In the immediate vicinity of the plants nearly all vegetation has been destroyed, and for a distance varying from about two to five miles from said plants the earth is practically destitute of vegetable growth, other than resistant species of grasses. Beyond this zone there is much injury, the damage, however, in most instances decreasing as the distance increases, but is greater, as before stated, towards the southeast and northwest, and in those directions where the vegetation is not protected by the barriers of high hills or mountain ranges. The territory affected in the Ducktown vicinity seems to be somewhat greater and the damage more extensive than that caused by similar fumes in the Shasta county, California, territory.

The Shasta county smelter is situated in a narrow valley, or what might also be termed a cut between the mountains; its highest chimneys are below the level of the surrounding land. In a northerly and westerly direction other narrow gulches branch off from the main one in which the smelter is located, through which gulches the fumes drift. Much more territory is included in the main basin and valleys subject to the Ducktown fumes.

In relation to the production of sulphur dioxid by the Tennessee copper companies, estimated upon the production of twenty-five million pounds of copper per annum, and assuming the works will produce their full capacity of copper when the furnaces are opened, the following results are given:

The ore of said copper mines carries 3 per cent. or a little less of copper, and it seems safe to estimate that at least 2 per cent. is extracted; therefore, the original ore from which the 25,000,000 pounds per annum of copper was extracted amounts to 1,250,000,000 pounds of ore per annum. The ore is said to contain on an average 19 per cent. sulphur, so that the amount of sulphur dioxid that could be obtained from this ore would amount to 475,000,000 pounds per annum. All of the sulphur, however, does not form sulphur dioxid, but part is retained in the slag. However, it seems safe to assume that

90 per cent. of the sulphur is given off into the atmosphere as sulphur dioxid. On this basis 427,500,000 pounds of sulphur dioxid would be given off annually. This would be enough to contaminate 42,750,000,000,000 pounds of air with one part of SO_2 to 100,000 parts of air, or enough to contaminate 529,000,000,000,000 cubic feet of air with one part of SO_2 to 100,000 parts of air. This contaminated air would cover an area of 189,752 square miles, to a depth of 100 feet. For a period of one day the atmosphere for a thickness of 100 feet would be contaminated for 520 square miles, or in a circle with the furnace in the center the contaminated atmosphere would extend nearly thirteen miles in every direction. Sulphur dioxid in the atmosphere of the strength of 1 to 100,000 is injurious to vegetation and as little as one pound to 1,000.000 has been proven to be also injurious.

The witness is also of the opinion that the maximum of injuries from the sulphur dioxid produced by said copper companies, operating at their present capacity, has not been reached, but will increase both in volume and in the scope of territory covered with the continued production and liberation of said fumes. If the production is doubled, the injuries will be multiplied.

With each zone of timber killed it would appear that the carrying power of said fumes is increased, inasmuch as the destruction of timber and vegetation permits the fumes to travel further before being absorbed.

Deponent can not see why chimneys, even higher than those now used, can possibly relieve the situation. As heretofore stated, the smelters are within a depression in the mountains practically surrounded at varying distances by mountain ranges considerably higher than said chimneys, and the increase in height of said chimneys by one or two hundred feet even, would merely result in giving said fumes a greater carrying power and a consequent ability to damage vegetation at greater distances.

J. K. HAYWOOD.

Sworn to and subscribed before me, this 27th day of November, 1905.

A. ZAPHONE,

Notary Public District of Columbia.

SECOND AFFIDAVIT OF J. K. HAYWOOD, EMBRACING EXAMINATION SEPTEMBER, 1906.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

UNITED STATES OF AMERICA—District of Columbia.

Personally appeared J. K. Haywood who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponet is a chemist by profession, and is now Chief of the Miscellaneous Laboratory, Bureau of Chemistry, of the United States Department of Agriculture.

Deponent, in his official capacity, and under the direction of the Bureau of Chemistry, made, in the summer of 1905, for said Bureau, at the request of the Bureau of Forestry, an investigation of the territory in and around Ducktown, Tennessee, for the purpose of determining for said departments whether or not the fumes of the copper plants in that vicinity were injurious to timber and vegetation, and if so, the extent of same. The result of this investigation deponent has heretofore incorporated in an affidavit in the above-styled cause.

Deponent, in his said official capacity, and at the instance of said Bureau, was again, to wit, in September, 1906, ordered to investigate said territory, with special reference to that within the State of Georgia and contiguous to the Ducktown region, to determine whether or not the injury to timber and vegetation caused by the Ducktown smelter fumes was greater or less in extent than it was when deponent made his examination about one year ago, when deponent was making a study of said question as heretofore stated.

Not only upon deponent's previous inspection of the territory adjoining the Ducktown region, and the various tests and examinations made thereunder, but also by deponent's examination of the effects of sulphur fumes liberated by copper companies in Northern California and through numerous experiments personally conducted by deponent, has this deponent familiarized himself with the effects of sulphur dioxid upon vegetation and timber generally, the quantity and volume necessary to produce injury or death, and the appearance of timber, foliage and vegetation subjected to the hurtful influence of said fumes.

Deponent's second examination of said territory in September, 1906, was confined to the counties of Fannin and Gilmer, in the State of Georgia, and was partly over territory previously examined in 1905, which at said time disclosed either, but unconspicuous or no damage from sulphur fumes.

Beginning at Ellijay, Georgia, about twenty-three miles airline south of the plants of the copper companies, deponent made an examination to the westward about two miles, and upon another trip to the southwest from three to four miles. From about one mile to the westward of Ellijay, as far as this deponent examined in a westerly and a northwesterly direction, there was grave damage to timber. The damage was especially to be noted in the case of blackjacks, and to somewhat less extent of black, red and Spanish oaks. The greater part of the damage had all the indications and appearance of injury by sulphur fumes, the other injury to timber being only that usually incident to forests and timber growth under practically normal healthy conditions; that is to say, occasional and insignificant injury by lightning, insects and the like, and depo-

nent is of the opinion that practically all the damage over and above the usual conditions in said locality is attributable to the smelter fumes given off by the copper companies in the operation of their plants. The region herein referred to, and subject to said harmful influence of said smelter fumes lies from about twenty-one to twenty-five miles south by west of Ducktown in an airline.

Another trip was made from said first-named locality in Gilmer county to Santa Luca, thence across Boardtown creek to the southern part of Fannin county; thence to the Louisville & Nashville Railroad, where it intersects the Gilmer and Fannin county lines; thence to the hamlets of Cherry Log and Whitepath, and from said points back to Ellijay, Georgia. These examinations carried deponent as far north as the southern line of conspicuous injury as disclosed by deponent's said investigation of 1905. Practically all the territory included in the localities heretofore specified lay to the southward and beyond the zone of conspicuous injury as shown by deponent's said first examination.

The examination of 1906 disclosed that the zone on conspicuous injury had greatly increased. From about a mile north of Ellijay to Santa Luca considerable damage to the forest was to be noted, especially to the blackjacks, black, red and Spanish oaks. From about one mile north of Santa Luca on across Boardtown creek, and on into the southern part of Fannin county, to the point where the county-line crosses the railroad, very severe damage to the forest was to be noted. Here not only were the blackjack oak, black, red and Spanish oaks injured and discolored, but short-leaf and scrub pines, which are fairly resistent to fumes, were also injured and discolored. Throughout this whole region just named, the white pines were very badly damaged.

From the point mentioned in the previous paragraph on down to Whitepath, the damage was just about as severe, and the same classes of trees were damaged as described in the preceding paragraph. From Whitepath on to Turniptown creek there is still damage to the foliage, but not so great as was observed north of Whitepath. South of Turniptown creek the damage is not so great or so continuous as in the other

localities heretofore noted, but occasional damage is observed in this direction on down to Ellijay. The damage is, of course, not equally distributed in all directions at equal distances from the furnaces. The topography of the country has considerable bearing upon the injury, as a locality sheltered by mountain barriers may be practically immune, when another neighborhood at a greater distance not so sheltered, or adjoining to a stream or valley lands opening into the Ducktown basin may suffer severely.

Deponent is of the opinion that the severe damage that is to be noted this summer (1906) down to Whitepath on one hand and a mile north of Santa Luca on the other hand, is just as severe as the damage noted one year ago, about one mile north of Blue Ridge, Georgia, which points are from about eight to eleven miles farther south.

Deponent is also of the opinion that the damage noted this summer (1906) west and southwest of Ellijay is almost as great as the damage noted one year ago in the region almost southwest of Blue Ridge in the southern portion of Fannin county, Georgia, from fifteen to eighteen miles further north.

From deponent's investigations and examinations, deponent is of the opinion that the far greater portion of the damage hereinbefore noted is attributable solely to the sulphur fumes of the copper companies near Ducktown; that is to say, that practically all the damage is attributable to said fumes, other than the usual and normal injury to be found in average healthy forests similarly situated from occasional and comparatively insignificant insect injury, lightning and the like.

Deponent is further of the opinion that the area of the smelter fumes has greatly increased during the present summer over what is was one year ago.

J. K. HAYWOOD.

Sworn to and subscribed before me, this 17th day of September, 1906.

LEON M. ESTABROOK,
Notary Public, District of Columbia.

EXTRACTS FROM BULLETIN 89, U. S. DEPARTMENT OF AGRICULTURE, BUREAU OF CHEMISTRY—TOPIC: "INJURY TO VEGETATION BY SMELTER FUMES."

Nov. 15th, 1904.

Being Reports of Examinations by the Department of Chemistry of the Effect of Sulphur Dioxid Upon Plant Life and the Inspection of Injuries Occasioned by a Single Copper Plant in Shasta County, California.

"The investigation described in this bulletin was undertaken at the request of the United States Department of Justice in consequence of a suit brought by the United States against the Mountain Copper Company (Limited), a corporation operating a large copper-smelting plant situated near Redding, Shasta County, Cal. The investigation was made to show whether or not the fumes from this plant are injurious to vegetation, and, if such injury exists, over how large an area it extends. While the company is willing to acknowledge damage over a certain limited area surrounding the plant it was thought by the plaintiff in the case that this damage extended over a much larger area than was acknowledged by the defendant.

"The writer was detailed to inspect the disputed area and take such samples for chemical analysis as might appear to be necessary. It was constantly borne in mind during this investigation that for a certain distance injury to vegetation was acknowledged, so that the taking of samples in this area was unnecessary. Consequently all samples of vegetation were taken either on the extreme edge or outside of the area of acknowledged damage, which, when plotted on the map, shows itself in the form of an irregular ellipse surrounding the smelter and extending about 3 miles north, 2½ miles south, 1 mile east and 3 miles west.

"The smelter is situated in a narrow valley, or what might almost be termed a cut between the mountains. Its highest chimneys are far below the level of the surrounding land. In a northerly and westerly direction other narrow gulches branch off from this main one, so that the fumes have a tendency to keep together and drift for long distances in these natural chimneys. In a southerly direction the fumes, after drifting over one high hill, have an uninterrupted sweep down the valley of the Sacramento. In an easterly direction the fumes pass, in the main, down the valley of a small stream and finally find outlet at the river, where they have a nearly uninterrupted sweep in both a southerly and an easterly direction.

"Immediately surrounding the smelting works practically all vegetation was entirely dead. Nothing was left of the trees but the barkless trunks, and no green grass was to be seen. In a northerly direction, as far as Copley (about 3½ miles), it was noted that large numbers of trees were either dead or dying, this being especially true of pines. Even for a mile and more beyond Copley numbers of the trees were dead, and others though living did not appear to be strong and healthy. In an easterly direction and beyond the river the damage was not so great, yet even here for 2½ to 3 miles and more the leaves of nearly all oak trees were turning brown and dying.

"In a southerly direction great damage was observed to all classes of trees for about 3 miles, or to the southern road running between Redding and Shasta. Still farther south, in Happy Valley (about 9 or 10 miles distant from the smelter), it was observed that large numbers of fruit trees, especially the peaches, which are very sensitive to injurious substances, were badly injured. This injury showed itself in the following way: The leaves would turn prematurely red and yellow (just as they do when sprayed with Paris green containing too much soluble arsenic) and drop off of the branches, leaving the fruit exposed, sometimes for 2 to 3 feet from the end of the branch. The trees did not appear to be suffering from a lack of water, nor from disease or insect pests, so that this injury was very likely due to the sulphur dioxid fumes. Further than this, several ranchers were interviewed, who said that when the wind was in a southerly direction the odor of the fumes

could be plainly detected in their orchards and that soon after this leaves usually began to drop. In a westerly direction great damage to a large number of trees was observed all the way to Whisky Town, about 5 miles from the smelter. Beyond Whisky Town the injury was not so great, but for a mile and more some of the trees were dead and large numbers did not appear to be vigorous and healthy, i. e., they were stunted in growth, had much less than the normal amount of foliage, and what foliage there was did not have a healthy green color.

"Before describing the investigation as made, the principles of elementary chemistry involved will be given for the benefit of readers who, though not chemists, may desire to use the data.

CHEMICAL PRINCIPLES UNDERLYING THE INVESTIGATION.

"The ore used by the Mountain Copper Company consists largely of sulphids of iron and copper. During the process of extracting the copper it is first calcined in appropriate furnaces to get rid of a large part of the sulphur. (Page 8.) It is then fused with a silicious flux, which removes more of the sulphur and a large part of the iron. This process is repeated until a product quite rich in copper is obtained. Finally, the impure copper is placed in a blast furnace with a silicious lining, where the remainder of the impurities, consisting of iron, sulphur, etc., are either fluxed or burned off.

"In practically all of these processes the sulphur originally present in the ore is burned and given off into the air, principally as sulphur dioxid, but to some extent as sulphur trioxid. For each pound of sulphur burned 2 pounds of sulphur dioxid are formed and given off into the atmosphere, a part of which acts directly on the foliage of the trees. Sooner or later, however, all of the sulphur dioxid is changed by the action of the oxygen of the air into sulphur trioxid, and it is in this form that we may expect to find it in the foliage of trees. The moisture present in the air unites with this sulphur trioxid to form the highly corrosive compound sulphuric acid, which in its turn acts upon the delicate foliage." (Page 9.)

EXPERIMENTAL WORK.

VISIBLE INJURY TO VEGETATION BY SULPHUR DIOXID. COMPILED DATA.

"First, it must be ascertained whether sulphur dioxid does injure vegetation, how small a quantity may be injurious, and through what organs of the plant such injury takes place. Light is thrown on these points by the work of several foreign chemists. M. Freytag showed conclusively by experimental work that the sulphur dioxid and trioxid in the air does not injure the plant through the medium of the roots. For this purpose he watered vigorous wheat, oat, and pea plants night and morning with 20 liters of water, containing in one case 4 grams of sulphurous acid and in the other case 5 grams of sulphuric acid. This continued for forty-five days. At the end of this time the amounts of acid were raised to 6 grams of sulphurous and 7.5 grams of sulphuric acid for fifteen days. Then for fifteen days the amounts of acid were increased to 8 grams of sulphurous and 10 grams of sulphuric. At the end of this time no injury to the plants could be noted, and the yield of crop was as great in the case of the plants treated with acid as in the case of untreated plants.

"J. von Schroeder and W. Schmitz Dumont, by an investigation made in 1896, showed that the injury to vegetation by sulphur dioxid is not by means of the roots, but through the leaves, and that even extremely minute quantities of sulphur dioxid are injurious.

"In order that the author might be able to testify from his own experience that minimum amounts of sulphur dioxid are injurious to vegetation, the following experiments were made:

"A cabinet 2 by 2 feet at the base and 4 feet high was built, having glass sides like a greenhouse, and so arranged that the whole top of the cabinet could be lifted from the wooden base to allow the introduction of rather large plants. At the front a small door about 1 foot square was placed to allow the operator to arrange the plants in the cabinet and introduce the vessel containing the fluid from which the sulphur dioxid was to

be made. The connections between the top of the cabinet and the base and between the door and framework of the side of the cabinet were made with rubber strips and screw clamps, and thus the surfaces could be drawn close together and the connections made as nearly airtight as possible, so that practically none of the sulphur dioxid could escape.

"In prepaartion for an experiment the plant was first placed in the case and the top screwed tightly to the base. A known weight of carbon disulphid in alcoholic solution held in a platinum dish was then introduced into the chamber, such a weight of carbon disulphid being used that the sulphur dioxid formed by burning bore a definite ratio to the weight of air in the box. The alcoholic solution of carbon disulphid was then quickly lighted and the door on the front adjusted. A small electric fan previously placed in the chamber was then started from the outside to equalize the amount of sulphur dioxid in all parts of the fumigation chamber.

GENERAL CONCLUSIONS.

"The following conclusions may be drawn from this investigation:

"1. Sulphur dioxid when present in very small quantities in the air kills vegetation.

"2. Such injury shows itself by the increased sulphur trioxid content of the foliage.

"3. The vegetation around the smelter for at least 3½ miles north, 9 miles south, 2½ miles east, and 5 to 6 miles west has been greatly injured.

"4. The water of the Sacramento river is polluted by the waste material from the smelter.

"5. It is the opinion of the author that this injury to vegetation will continue and even increase its limits unless the fumes are condensed.

"6. The fumes can be condensed and sulphuric acid formed, for which a ready market would probably be found."

AFFIDAVIT OF JOHN M. McCANDLESS, STATE CHEMIST OF GEORGIA.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fulton County.

Personally appeared before the undersigned authority, John M. McCandless, who, being duly sworn, deposes, and says:

Affiant is a chemist by profession and has been for the past twenty years, and is now State Chemist for the State of Georgia, which office affiant has held since 1898. In his capacity as State Chemist affiant was a member of the commissions of 1903 and 1905, appointed by the State of Georgia to investigate and report upon the damage, if any, being done to the State of Georgia and her territory in the neighborhood of Ducktown, Tennessee, by the copper-reducing plants located there.

Affiant personally made a careful investigation in the autumn of 1903, and found the Tennessee Copper Company roasting its ores in open roast heaps and liberating large quantities of sulphur dioxid, which had done, and was then doing, great

damage to the timber, fruit and vegetation for a considerable distance within the State of Georgia.

The investigation of 1905 disclosed the fact that the Ducktown Sulphur, Copper and Iron Company and the Tennessee Copper Company had abandoned open-heap roasting and were reducing their copper by a new method, under which the green unroasted ore was smelted in a furnace, and all the sulphur gases produced in the process are thus concentrated in the throat of a single chimney for the plant of each of said companies and emitted therefrom. The Tenessesee Copper Company, which generates the major portion of the gas liberated, had abandoned the plant and roast yards in operation when complaint was first made by the State of Georgia. This company had, however, erected furnaces and installed the process now in vogue at a new location, the same being but a few hundred yards distant from the Georgia line. The old roast heaps were several miles further distant from the Georgia territoy.

The new process results in concentrating the gases, which were formerly liberated over a wide area from the open roast-heap into a narrow and circumscribed locality. Owing to the further fact that the height of these stacks or chimneys is quite low as compared with the surrounding country, the plants being located in a valley or depression of mountainous country, the gases have little or no chance to diffuse into the circumambient atmosphere before they are swept by the wind currents against and over the high wooded ridges and hills of the surrounding region. The composition of these gaseous currents, being doubtless much richer in sulphur dioxid by reason of their concentration at the point of origin than those from the old roast-heap system, would naturally have a more destructive effect upon the forest trees and other vegetation against which they are driven by the winds than would have been the case under the old system.

When sulphur, either as brimstone or combined with iron, as pyrites is burned in the air it unites with the oxygen of the air to form SO_2, or sulphur dioxid, also known as sulphurous anhydride. Sulphur dioxid unites readily with the elements of water whenever found, either as vapor in the at-

mosphere or as rain or dew with the water which exists as a natural constituent of the bodies of plants and animals when inhaled. The chemical formula of water is H_2O, or two atoms of hydrogen and one of oxygen, which coming in contact with one atom of sulphur and two of oxygen, SO_2, combined with them to form a molecule of H_2SO_3; or sulphurous acid, which must be carefully differentiated from sulphuric acid, which contains another atom of oxygen and has the formula of H_2SO_4, and is a much more destructive and corrosive acid than the sulphurous, but both are capable of great damage to vegetation.

Observation and experience not only in America, but also in Europe, shows that the sulphur dioxid given off from chemical works and from smelting works and roasting-heaps are very injurious and deadly to vegetation. Schroeder has shown that sulphurous acid is absorbed by the leaves of deciduous trees and conifers. The leaves retain it mostly, a smaller part penetrating into the wood, the bark, leaf stalks either as sulphur dioxid or, after oxidation, as sulphuric acid. Morren shows that the leaves are more sensitive to sulphur dioxid than flowers. When present in a proportion of one to eigthy thousand in the air the leaves of fruit are visibly affected in three to five hours, and this effect seems to spread after the direct action of the gas ceases. Adult leaves are usually more sensitive than the young leaves. Sulphurous acid dissolved in water is almost without effect, while on the lower surface each little drop causes a formation of a spot visible on both surfaces. This solution is not quickly changed into sulphuric acid, the effect of the latter being quite different from that of sulphurous acid.

The Bureau of Chemistry, U. S. Department of Agriculture, has shown that as little as one part of sulphur dioxid in one hundred thousand of air does serious damage to vegetation; in fact, even so small an amount as one part to one million of air is injurious.

The new furnaces in course of installation by the Tennessee Copper Company will raise, so affiant is informed, the capacity of said works from the present output of about twelve million pounds of copper per annum to twenty-five million. If from

an ore carrying a little less than 3 per cent. copper we estimate an efficiency of extraction of 2 per cent., it would require one billion two hundred and fifty million pounds of ore to yield twenty-five million pounds of copper. The ore is reported to contain 30 per cent. sulphur, but if the ore is placed at 20 per cent., and if we allow that one-fourth of this sulphur remains behind in slag and matte (which is probably a very excessive approximation), and the remainder is thrown out into the air in the form of sulphur dioxid, we should have three hundred and seventy-five million pounds of sulphur dioxid belched into the atmosphere from these furnaces. Supposing the air now to be contaminated with it in the proportion of one to one hundred thousand, we should have 495,000,000,000,000 cubic feet of air, or 177,557 square miles, of air, one hundred feet in thickness, emitted for a period of one year. For a period of one day the atmosphere for a thickness of 100 feet would be contaminated for 486 square miles, or in a circle with the furnaces in the center the impregnated atmosphere would extend 12½ miles in every direction.

From the new furnaces alone of the Tennessee Copper Company, estimating their capacity at 12,500,000 pounds of copper per annum, enough sulphur dioxid would be generated daily to render noxious 243 square miles of atmosphere 100 feet thick, and if the old works, both of the Tennessee Copper Company and the Ducktown Sulphur, Copper and Iron Company, were abandoned and left idle, and only the new furnaces of the Tennessee Copper Company now in course of completion operated, enough sulphur dioxid would be generated to contaminate the atmosphere to a thickness of 100 feet within a circle of territory 17.6 miles in diameter at a strength of one to three hundred thousand, which is very destructive to vegetation, the diameter of the circle would be increased to a little over twenty-two miles. Operated in conjunction with the remaining works, the contamination of the atmosphere and all damages incident thereto will increase in proportion to the increase of sulphur dioxid which will be generated by the new furnaces.

Affiant is informed by the president of said Tennessee Copper Company that the gas generated by said company was of

the strength of six per cent. If this is true, and the gas this strength when expelled from the chimney it must expand eighteen thousand times its volume to become diluted to the extent of one to three hundred thousand, a strength highly injurious to plant life.

It is evident from a consideration of these facts that in course of time the air of the habitable globe would be rendered irrespirable by plants and animals were it not for the solubility of sulphur dioxid in water, and the further fact that the sulphur dioxid is washed out of the air by rain and carried to the sea through the water courses.

Affiant can see no reason why a chimney taller than the stacks now at Ducktown can benefit matters, so far as the injury within the State of Georgia is concerned.

As hereinbefore stated, the surrounding mountains are far above the level of the works, and, consequently, the chief difference taller chimneys might make would be that in the immediate neighborhood of the works might profit slightly at the expense of the more distant territory, the higher the chimney the greater the carrying power of the fumes, unless such chimney is tall enough to overtop the surrounding barriers.

The tallest chimney in America of the character and such as that proposed by the Tennessee Company is, affiant believes, in the State of New Jersey, on a narrow neck of land extending in the waters of New York Bay nearly to Staten Island, and separated from Staten Island by a channel only a few hundred yards in width. The heighth of this chimney, so affiant is informed, is 365 feet, and same stands back some distance from the water front, which will add probably 15 feet additional to its total altitude above the sea level. The plant from which this chimney is fed is almost wholly surrounded by water, the same varying, except as to that between Staten Island and the works, from a few miles to practically the width of the Atlantic ocean.

Beyond Staten Island is an unbroken stretch of water, and only one point on the island, the crown of a single hill, as shown by Hydrographic Chart 369 New York Bay and Harbor, is equal in heighth to the chimney, so that when the wind is towards Staten Island from said works, unless the smoke

falls to the earth almost immediately, it must pass over Staten Island and above or upon the waters beyond.

A great portion of the nearest land beyond the surrounding stretch of waters is occupied by towns and cities, among which are the cities of Elizabeth, Jersey City, New York and Brooklyn, with their surrounding towns and villages.

That such a chimney would furnish no criterion for the Ducktown country is clearly apparent. The sulphur dioxid coming down upon the water not only can do no damage, but is to a considerable extent absorbed by the water. The constant mists and fogs in effect furnish water to unite with the sulphur dioxid and precipitate the resulting sulphurous acid into the sea.

Should the smoke, even in considerable strength, reach a neighboring shore, it has little opportunity for injury, and the injury little chance for identification. The heat of cities and towns being greater than that of the surrounding country, causes a well-nigh continual air or current upwards, which would, of course, help to carry up and dilute the sulphur dioxid, as well as distribute same to distant parts, and even should smoke do injury in the cities the vegetation is so scarce and widely separated that injuries could hardly be traced.

Deponent is informed that less than five tons of sulphur are burned per day at said works, which is insignificant in comparison with the amount which may be calcined at the Ducktown works under the proposed capacity of the same. In addition to this, works situated as those near Staten Island would menace very little territory except that in the immediate neighborhood, and without the chimney only the adjoining Jersey shore and Staten Island would be likely to suffer. The chimney would of course benefit the immediate locality. As before stated, chimneys of like kind might benefit the neighborhood of the works now utterly denuded of vegetation, but this benefit would be, in the opinion of deponent, at the expense of more distant sections.

JOHN M. M'CANDLESS.

Sworn to and subscribed before me, this day of November, 1905.

W. H. HARRISON,
Notary Public, Fulton County, Ga.

AFFIDAVIT OF W. F. FISKE,
U. S. ENTOMOLOGIST.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

UNITED STATES OF AMERICA,
District of Columbia.

Personally appeared, W. F. Fiske, who, being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is an entomologist by profession, and has been for eight years, and is now, and for the past two years has been Special Field Agent, Forest Insect Investigations, of the Bureau of Entomology of the United States Deparement of Agriculture, and, as such, and in connection with his duties with said Bureau, in October, 1905, made a personal and professional investigation of the territory at and near Ducktown, Tennessee, for the United States Government, to determine the relation of the sulphur dioxid in smoke to the injury by insects to the forest trees in said locality.

Deponent says that he arrived at Ducktown on the 12th of October, and remained until the 17th, making daily trips into the field, for the purpose of studying the conditions as regards the prevalence of forest insects of known destructive habits within an area about twenty-five miles in diameter, with its center at Ducktown; that the following is a summary of the results of these investigations, prepared from a study of the notes made in the field:

Noticeable or conspicuous injury to forest trees by the fumes of sulphur dioxid emanating from the copper smelters near Ducktown and Isabella, Tenn., extends over an irregular area to varying distances which are largely determined by the topographical character of the country. At the outer borders it is indicated by the scorching and premature dropping of the foliage, followed by the death of the upper branches of certain of the larger trees. In the intermediate zones, the trees are variously affected, the severity of the injury being determined by species, height, location, and, to a considerable extent, by what can only be considered as individual variation in the ability of trees of the same age and species to withstand the effects of the fumes. In the central portions of this area, practically all the trees have been killed. It does not appear that the injurious effects of the fumes have yet reached their maximum, but that if present conditions continue many of the trees as yet but slightly injured will eventually die.

The presence of fumes of sulphur dioxid in the air in sufficient amount to cause injury and ultimate death to most of the higher forms of vegetation does not appear to have any direct effect upon insect life.

Insects which are capable of attacking and destroying living and healthy trees (destructive insects) breed in those that have been injured or killed by sulphur fumes.

Trees injured by the fumes are not as liable to insect attack as those injured through other causes, as lightning or storm. Though many such trees are attacked, the number is small in comparison with the total in the area affected. This is particularly true of deciduous trees.

The death of many trees more or less weakened by the fumes has been hastened by insects; in some cases by a few months

only; in others they would probably have lived several years had the insect attack been averted, or recovered had the effects of the fumes been discontinued.

Destructive insects breeding in the trees injured by the fumes show a tendency to extend their depredations to closely adjacent uninjured, or slightly injured, trees. This is particularly true of those species infesting pine, and to a less degree in the case of those occurring in hardwoods.

There are no indications that ravages by these insects will immediately spread beyond the limits of the present injury by fumes into forests now unaffected, as the work of destructive insects is more abundant in the central, more severely injured, sections, than toward the outer border of the area conspicuously affected by the fumes.

W. F. FISKE.

Sworn to and subscribed before me, this 27th day of November, 1905.

A. ZAPHONE,
Notary Public District of Columbia.

AFFIDAVIT OF RALPH I. SMITH,
ENTOMOLOGIST OF THE STATE OF GEORGIA.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM. 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fulton County.

Personally appeared, Ralph I. Smith, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a graduate of the Massachusetts Agricultural College at Amherst, Massachusetts, and is Entomologist for the State of Georgia.

Deponent, in connection with his duties as Entomologist for the State of Georgia, as aforesaid, during the summer of 1905 visited northern Georgia and the territory in the vicinity of the copper plants at and near Ducktown, Tennessee, for the purpose of investigating the cause of the death and destruction of vegetation in said locality.

Deponent found enormous destruction of timber throughout said region. In the immediate vicinity of said works practically all vegetation was destroyed for several miles, and in the

zone adjoining this almost an equal distance the vegetation and trees in particular, which had not already been killed, were rapidly being destroyed, and in fact were in practically a dying condition. In the zone beyond this great injury was apparent, particularly to trees such as hickory, white pine and chestnut oak; they being especially susceptible to the harmful effects of sulphur dioxid. The injury to the forests is, in a measure, governed by topographical conditions. Ducktown is situated within a basin, practically walled in at distances varying from ten to possibly nearly fifty miles by mountain ranges, the greater length of the basin being towards the southeast and to the northwest, the same being narrowest towards the east and westward.

The death of the forest within the State of Georgia is greatest towards the southeast, the effects of the copper fumes being plainly apparent frequently over more than twenty miles from said copper works.

The injury to the forest from the copper fumes is shown by the scorched and early falling of the foliage, followed by the death of the other branches of the trees. This is usually noticeable first in the taller trees, as they serve to protect in a measure the smaller growth from the full effects of the fumes. All trees are not affected equally, and even those of the same species, the power of resistance varying in individual trees in the same manner as the power to throw off the effects of poisons differ in human beings.

Deponent especially examined the timber and vegetation with reference to their destruction by insects. Various trees were examined, but no abnormal deaths from insects were discovered, nor was there indication of fungous diseases in the midst of the zone affected by the sulphur fumes. Destructive insects were found in living trees, but they were almost wholly confined to the trees already injured or dying from sulphur fumes. The injury from the fumes invites the attack upon the tree affected, and such trees in consequence of such injury often become in effect incubators to furnish enemies for the surrounding timber.

The destructive insects within the locality injured by the fumes are apparently on the increase, but as yet their attacks

are largely confined to the timber already damaged by the sulphur dioxid. But for this damage the amount of destructive insects within the territory would be but small, and as it is, the direct injury to healthy trees by such insects is insignificant. They will, however, increase with continued injury by the sulphur fumes, as the fumes are not strong enough to injure the insects, but serve to weaken the timber and invite the attacks of insects capable of attacking and destroying living timber. In many cases the injured trees attacked might have lived some time, had insect attack been averted, or might have fully recovered had the fumes been discontinued, but in each case the attack by such insects was, as a rule, attributable solely to the condition of the tree resulting from the effect of the sulphur dioxid. It was apparent, from the examination, that the harmful effects of the fumes had by no means reached their maximum, but would continue to grow with the continued production of sulphur dioxid. As each belt of timber is destroyed, the zone subject to the fumes is increased by reason of the destruction of the timber which had formerly intervened and served to absorb and hold back the destructive gases, and if the capacity of the works is doubled, as deponent understands is now being done, and the consequent additional amount of sulphur fumes diffuse over the territory traversed by deponent, each and all the injuries hereinbefore stated will be magnified, and the territory subject to the sulphur dioxid will be greatly increased. The injury will embrace not only the timber directly, but plant life generally, and will finally result in denuding the forest in a considerable part of the territory in Gilmer and Fannin counties, Georgia, and probably also in the counties of Murray, Union and Towns.

On a subsequent trip to said region, to wit, during the second week of October, 1905, deponent took pictures of parts of the country surrounding the Tennessee Copper Companies and the Ducktown Sulphur, Copper and Iron Company's works. These pictures are marked I, II, III, IV, V, VI, VII and VIII, and are hereto annexed and made a part of this affidavit, and are more fully described as follows:

The picture marked No. I was taken from Windy Ridge to the rear of McCay Town, overlooking valley of Okee river.

Point marked X shows location of Tennessee Copper Company, and picture illustrates how fumes from the furnaces settle in the valley so as to almost completely obscure the view. This point is about one-half mile from the Georgia line.

No. II shows works of the Tennessee Copper Company on the right and fumes driving in a southeasterly direction down the valley of the Okee river. Hills in the distance obscured by the dense smoke.

No. III, taken one-fourth mile south of the Tennessee Copper Company, and about the same distance from McCay Town, through which the line between Tennessee and Georgia runs. Picture taken overlooking Okee river and L. & N. R. R., showing both Tennessee and Georgia territory. Dense smoke from the furnaces of the Tennessee Copper Company settled in the valley so that the hill opposite from where the picture was taken was practically shut off from view. On this morning the smoke was being carried by a northwest wind down several miles over Georgia territory.

No. IV is a view taken from Copper Hill looking toward the Isabella furnaces, and showing white smoke arising from same. This view shows a scope of country from four to five miles in extent absolutely bare of trees or any other vegetation except sedge grass. Hills badly washed and gullied by rains which run off without hindrance. From point where this picture was taken a backward view would show three miles of country extending about to the Georgia line equally barren.

No. V is a nearer view of the Isabella works, showing dense clouds of smoke arising from the furnace about two miles in the distance. This picture was taken from a hill where the Ducktown mines are located, looking toward Tennessee. The hills are absolutely barren of all vegetation except bunches of sedge grass. From position where this picture was taken it is about four miles to the works of the Tennessee Copper Company, and the land in between presents an appearance similar to that shown in this picture.

No. VI, a view in Georgia territory about one mile from the new works of the Tennessee Copper Company, and about four and one-half miles from the Isabella works, showing hills de-

nuded of timber and apple trees in foreground which are apparently dying from the effect of the fumes.

No. VII illustrates condition of oak timber in ravine one mile from Kyle, Georgia, and about three miles from Tennessee Copper Company furnaces. Seventy-five per cent. of the timber is dead and some of the remainder in a dying condition.

No. VIII was taken from a ridge in the rear of Kyle, looking up the valley of the Okee river toward Tennessee. Most of the hills are bare except for sedge grass, and the timber in spots is fifty to sixty per cent. dead, evidently from the effects of the fumes arising from the smelting of copper ore. Further observations show that at least sixty per cent. of the timber is killed and the remainder being slowly damaged.

RALPH I. SMITH.

Sworn to and subscribed before me, this 20th day of November, 1905.

LOGAN BLECKLEY,

Deputy Clerk Supreme Court of Georgia.

SECOND AFFIDAVIT OF RALPH I. SMITH OF INVESTIGATION IN SEPTEMBER, 1906.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fulton.

Personally appeared Ralph I. Smith, who, being duly sworn, herein deposes and says:

Deponent is an entomologist by profession, being a graduate of the Massachusetts Agricultural College at Amherst, and is entomologist for the State of Georgia.

In connection with the duties of his said department as entomologist for the State of Georgia as aforesaid, during the third week of September deponent traversed a considerable portion of Gilmer and Fannin counties, Georgia, for the purpose of investigating the death of the timber and vegetation therein and particularly to ascertain whether or not same was attributable to insects.

Northward from the town of Ellijay, Gilmer county, Georgia, through the Santa Luca, Boardtown, Cherry Log and

Whitepath districts of Gilmer county, and throughout the territory to the north thereof as far as Blue Ridge, Fannin county, Georgia, and to the westward and southwest of Ellijay for several miles there was recent and conspicuous injury to the timber and vegetation, large quantities of timber being killed and in many localities practically all foliage was destroyed. In the timber recently killed or injured practically no destructive insects were found, nor were such insects present through the forests generally in more than normal numbers to be found in the average healthy forests, with the single exception of trees previously noted as damaged by the sulphur fumes. In the district in which considerable damage by the fumes had previously been noted the destructive insects had increased, the injured and dying timber forming incubators for the harmful insects. The insects propagate and are present in much larger numbers throughout the injured territory, usually appearing in unusual numbers the spring following the conspicuous damage to the timber. The timber throughout Gilmer county, and most of Fannin county below Blue Ridge traversed by deponent had been so recently injured that the insects were not to be found in the injured or healthy timber.

When the timber has been injured sufficiently to form breeding places for the destructive insects, they in time spread to the healthy timber in the neighborhood. This is particularly noticeable in the area north of Blue Ridge where there was old injury, but very little noticeable south of this point.

Deponent files herewith pictures numbered A1, 2, 3, 4, 5, 6, taken by him in Gilmer county, Georgia, in territory not theretofore noted as containing conspicuous injury to vegetation.

View A is to the northward of Ellijay, Georgia, showing the white pine but recently injured, some having shed their needles, and those appearing white in the picture have needles brown and withered and ready to fall.

View A2 is taken two miles west of Ellijay, and shows injured and dead oak timber.

View 3, about seven miles north of Ellijay, on the Boardtown road, showing timber protected by topographical condi-

tions from the effects of the fumes, and having normal foliage.

View A4, taken within about two hundred yards from view 3, but showing timber not protected from the fumes.

View A5, taken on Boardtown road east of Whitepath, Ga., showing recently killed foliage. While the camera did not bring out the withered and brown effects, a close examination shows the shriveled appearance of the foliage.

View A6, taken about a mile north of Whitepath, showing white pine killed and other timber injured.

R. I. SMITH.

Sworn to and subscribed before me, this ... day of September, 1906.

LOGAN BLECKLEY,
Deputy Clerk, Supreme Court of Georgia.

AFFIDAVIT OF WILMON NEWELL, ENTOMOLOGIST OF THE STATE OF LOUISIANA.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF LOUISIANA,
Parish of Caddo.

Personally appeared, Wilmon Newell, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is by profession an entomologist, and has been for — years, and is now entomologist for the State of Louisiana.

In the year 1903 deponent was entomologist for the State of Georgia, and as such about the late summer or early autumn of said year made an investigation of the territory within the State of Georgia adjacent to Ducktown, Tennessee, to determine the cause of the destruction of forest trees, growths and vegetation reported in said locality. Deponent examined the territory within the State of Georgia ranging from four to ten miles from the Tennessee line and said copper works, which examination disclosed that from five to six miles from

said works 50 per cent. at least of all timber was dead, and the vegetation generally was badly injured.

The theory that destruction of vegetable life was caused by insects or disease was advanced by those interested in the copper works. I could find nothing to support this theory.

In the investigation trees of the various kinds were cut down and examined for indications of insect work. In timber which had been dead for a considerable time, insects were abundant, but they were of species which feed upon dead vegetable matter, and, therefore, were not responsible for the death of the trees. Were insects responsible for this destruction they should be found in the dying timber. Examinations failed to reveal them except in rare cases. Possibly the death of one tree out of every five hundred dead was chargeable directly or indirectly to insect work. This amount of insect damage is comparatively insignificant, and is no more than can be reasonably expected to occur in any forest locality.

The average of destructive insects was very small indeed, and certainly not more than could be found in any average healthy forest region.

Again, trees killed by insect pests present certain characteristics which in the present case are conspicuously absent. The cambium (the layer of the cell-forming tissue immediately beneath the bark) in trees killed by the sulphur fumes frequently becomes blackened even before the tree has succumbed to the poison. This character we fail to find in trees dying from the attacks of insects.

The fact that certain trees in the affected locality die while trees adjacent remain apparently healthy does not necessarily indicate that the sulphurous acid smoke is not the destructive agent. The power of resistance when exposed to unfavorable conditions varies with different species, and may reasonably be supposed to vary in individual plants of the same species.

This power of resistance is in all probability directly proportionate to the vitality of the individual plant. Young trees or those most favorably situated with reference to moisture, soil, etc., may be expected to longer withstand the sulphur fumes than others. That the resistance power in plants *does* vary in individuals of the same species, even when grown and

kept under the same conditions, has been shown in the fumigation of nursery stock when by mistake the latter have been subjected to too strong a dose of hydrocyanic acid gas. Some trees will be killed while others of the same lot, when planted, grow well and show no indication of injury.

The roots of various dying trees in the affected area were examined and no indication found of fungous diseases.

From the examination made it was clearly apparent that the great destruction of timber and vegetation was due to no source other than the sulphur dioxid generated by the copper companies near Ducktown and Isabella, Tennessee. It was also apparent that the effects of the fumes would reach further and further each year of the operation of the said plants. The sulphur dioxid is to a large degree cleared from the atmosphere by the vegetation, the trees first coming within the influence of the smoke to a degree protecting those at a greater distance. As the zone of destruction of the timber would increase the zone of timber subject to the harmful influence of the fumes and would likewise be added to, and this will continue so long as the sulphur fumes are generated and liberated in the atmosphere. The said fumes will doubtless eventually denude of all useful vegetation a considerable portion of the land in Fannin and Gilmer counties, Georgia, and possibly also in the counties of Murray, Union and Towns, if the same are produced and liberated, as was the case when deponent made his examination in 1903, as aforesaid.

WILMON NEWELL.

Sworn to and subscribed before me, this 18th day of November, 1905.

J. A. THIGPEN,

Notary Public Parish of Caddo, Louisiana.

AFFIDAVIT OF J. S. HOLMES, U. S. FORESTER.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF NORTH CAROLINA,
Buncombe County.

Personally appeared, J. S. Holmes, who, being duly sworn herein, deposes and says:

Deponent is a forester by profession and is forest assistant in the Forestry Service of the United States Department of Agriculture.

In connection with the duties of his said office and under the orders of said Forestry Service, deponent during the summer and autumn of 1905 investigated for said Department of Forestry the forests and timber growths of the regions around Ducktown, Tennessee, including forest lands lying in the counties of Fannin, Murray and Gilmer in the State of Georgia.

Deponent found that great damage had been done to the forest and timber growths in and around Ducktown by the sulphur dioxid generated by the copper companies at and near

said place. Within a radius of from two to five miles from the smelters of said companies the forest and forest growths had been practically destroyed, and that much timber beyond this distance was dying or injured, the extent of the territory in which the timber was subjected to the harmful effects of said fumes being, in a measure, governed by the topographical conditions and prevailing winds. The area of injury extends farthest in a southeast and northwest and shortest in a westerly and easterly direction, this being due to the prevailing winds and river valleys in one case and to the proximity of high mountains in the other. For example, white pine is injured, among other sections, in a southeast direction along Jack river, Fannin county, Georgia, for a distance of ten miles from the Tennessee Copper Company's smelters at McCays, Tennessee; south on Turniptown Creek, Gilmer county, twenty miles; southeast on Flat Creek, Fannin county, fifteen miles.

Black oak is injured southwest on ridge between Tumbling and Patterson's creeks, Fannin county, eight miles from smelter; south on Blue Ridge and Santa Lucca road, Fannin county, ten miles; southeast on Snake Nation creek (Charlie creek), Fannin county, twelve miles from smelter.

The general effect of the fumes is to gradually kill out the forest. The fumes act much quicker when the air is moist, so that there is more damage in the vicinity of the larger streams, where the morning mists lie; and more damage is done during a dull and rainy time, when the air is moist and heavy.

The more exposed trees are generally the first to be affected, so in a dense forest the undergrowth and reproduction may escape until the upper trees are dead or leafless or until they are cut out as in lumbering operations. There seems to be no greater resisting power in young than in old trees, other things being equal. As a rule ridges suffer worse than coves, and the slopes toward the smelters more than those away from them.

The injury first seen in the leaves, and it is this leaf injury which first retards the growth of the tree and finally kills it. As it takes more applications of the fumes to hurt a leaf at a distance where the fumes are diluted, than near by, where they are stronger, it follows that the farther from the smelter the injury appears the longer it takes to kill the tree.

The first symptom of injury is a gradual turning of the leaves to a yellow or golden brown color. This occurs in deciduous trees between July and September, according to the susceptibility of the tree or its nearness to the smelter. The leaves gradually die and fall prematurely. If this occurs early in the season it seriously affects the vitality of the tree, prevents the growth of summer wood and hinders the storage of food. In some instances the trees when first affected early in the season, put on a second crop of leaves. This is an effort on the part of the tree to recuperate. It is also observed where defoliation has been caused by insects. Some species are more susceptible than others, and there is considerable variation between individuals.

The injury is spreading year by year. This is partly due to the fact that the gradual dying out of the trees permits the fumes to travel farther before being absorbed by the foliage as well as to increasing amounts of ore smelted. Deponent can see no reason why the tall smokestacks proposed should decrease the injury. With increased production the injury will certainly be still more extended if the fumes incident thereto are liberated.

J. S. HOLMES.

Sworn to and subscribed before me this 18th day of November, 1905.

J. SCOOP STYLES,

Notary Public Buncombe County, N. C.

(My commission expires May, 23, 1907.)

AFFIDAVIT OF A. B. PATTERSON, U. S. FORESTER.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

UNITED STATES OF AMERICA—District of Columbia.

Personally appeared A. B. Patterson, who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a forester by profession, and is Assistant Forest Inspector in the Forest Service of the United States Department of Agriculture.

Deponent, in his official capacity as Assistant Forest Inspector, and under the orders of the Forest Service, during the first and second weeks of September, 1906, visited the region adjoining the Ducktown basin of Georgia and Tennessee for the purpose of investigating forest conditions, and especially with relation to the forest injuries through sulphur fumes, previously reported by Forest Assistant Holmes of said Forestry Service, and particularly with relation to the conditions resulting from and the effects of the tall stack erected by the Tennessee Copper Company and the increased furnace smelting of

said companies, the stack having been erected and put into operation after the investigation by said Holmes was made.

At the time deponent was instructed to make his said investigation, said Forest Assistant Holmes was on duty with said United States Forest Service in the Territory of Arizona, and was not available for said investigation, and this deponent was detailed therefor.

Deponent has carefully examined the affidavit heretofore made herein by said Holmes, his report upon forest conditions around Ducktown, and the map prepared by him showing the zones and the extent thereof of the several character of injuries by the sulphur fumes of the copper companies, which map was filed with said Forestry Service and blue-prints thereof are filed herewith and marked exhibit "A" for identification. Deponent has also examined the photographs of said region filed by said Holmes with said Forest Service, the same by said Service being numbered 63032, 63036, 63038, 63039, 63040 and 63041, reprints thereof under said numbering being filed herewith.

By said map and report of said Holmes under his said investigation in August and September, 1905, the zones of injury by said sulphur fumes were shown upon said map and classified as follows:

"1. An inner zone, with a radius of from three to five miles, is practically denuded of forest growth, although a few dead trees stand here and there.

"2. The middle zone forms an irregular band around the inner and varies from three to eight miles in width. The included forest has a brown appearance accompanied by a premature falling of the leaves. Most of the susceptible species are affected.

"3. The outer zone includes the remainder of the affected area, its inner limit being seven miles, and its outer limit being twenty miles from the furnaces. All of included forest is not injured, but it is likely to be, since leaf injury was noted at the outermost limits."

By reason of the somewhat limited time allowed to deponent for his investigation, deponent did not wholly retrace the investigation of said Holmes throughout the entire territory,

particularly in the immediate neighborhood of the mines where such injury was apparent, even to the casual observer, but, by reason of the immediate recognition of greatly increased area of injury, deponent devoted his investigations largely to the territory of new or increased injury, and to the south, southeast and east, and to the north and northwest of said plants of The Tennessee and Ducktown Copper Companies.

Deponent's investigation disclosed that the increase of the inner zone of injury or area destitute of forest was comparatively small. Complete denudation has spread about one mile north of the limits observed by Mr. Holmes and specified upon said map and the southern boundary has advanced about one-half a mile. From casual investigation of the immediate neighborhood of the plants it would appear that conditions had slightly improved, some grass and occasional shrubs or undergrowth having sprung up during the present spring and summer. What benefit there may have been was so slight and affected so small an area that deponent did not think it worth while to make a comprehensive examination. As previously stated, the outer zone of complete denudation had increased, and any benefit from the stack whatever was confined to the immediate vicinity of the copper plants.

The increase of the area of serious injury over that reported by Mr. Holmes in September, 1905, has been very great and exceeds at every point examined, not only the area of serious injury, but passes beyond the limits of leaf injury (the third zone) observed by said Holmes and specified upon said map hereinbefore referred to.

To the south the serious leaf injury has extended as far as Talona Mountain, twenty-six and three-quarter miles from McCays, or eighteen and three-quarter miles south of the limits observed and fixed by Forester Holmes. To the southeast white pine, black and blackjack oaks are killed, and other black oaks are seriously defoliated on John Dick Mountain, twenty-three and one-half miles from McCays, or seventeen miles beyond the limits found by Mr. Holmes in this direction. East of McCays serious injury was noted at Culberson, twelve and one-half miles distant, or five and three-quarter miles beyond similar injury apparent last September. North of McCays serious injury was observed on Cane Creek, fifteen miles

from the high smokestack, or four miles farther north than observed by said Holmes. Serious injury amounting to complete defoliation of from thirty to sixty per cent. of the white pine was observed along Gee Creek, in Polk and McMinn counties, Tennessee, twenty and one-half miles northwest of McCays, while the farthest injury noted by said Forester Holmes in 1905, in that direction, was ten and one-half miles.

Topography and prevailing winds are important factors in the fume injuries. The mountain sides or coves facing or opening in upon the Ducktown basin, and not protected by mountainous or other barriers, are the localities showing the heaviest injuries. Often in the same immediate neighborhood there will be a conspicuous injury in the unprotected sections, while at some point shielded by protecting barriers but small injury is shown.

To the east and west of the Ducktown basin in Tennessee the mountain ranges are much closer than towards the north and south. The greatest length of the basin is in Georgia, to the south, and to the northward in Tennessee, which may explain the tendency of the fumes to more frequently seek these directions. To the south of the smelters the fumes can pass through numerous low gaps and fill the valley of the Ellijay river as far south as Ellijay. East of Ellijay the Cartecay valley is protected from the fumes by a high range of mountains, and it was not until a point opposite Big Creek Gap was reached, between Tickanetley and Diamond was reached the sulphur dioxid injuries became apparent.

In the Toccoa river valley above Wilscot creek the fumes traveled high and serious injury is confined to the upper parts of the exposed mountains in that watershed. The river is exceedingly winding and the lower strata of the fumes were evidently pocketed in the turns of the river while the upper strata passed through the wind gaps and encountered the high slopes.

West of Stanley Gap leaf damage rapidly increases as Rock creek is descended. Probably fifty per cent. of the white pine, black, scarlet, Spanish and blackjack oaks are so seriously injured in this watershed that their recovery is doubtful, even if subjected to no more sulphur fumes. It is well known that when trees are injured or their vitality lowered in any way

they are unable to resist the attacks of insects, so that insects are often the secondary cause of the trees being killed in the fume-affected area.

A large number of thrifty young white pines, recently defoliated, were examined, and in no case were any insects found, although the inner bark and sap wood were green. On the other hand, trees noted and marked by said Forester Holmes in September, 1905, as injured by sulphur fumes, were found infested with insects.

Throughout the valley of the Ellijay river as far as the Coosawattee river, serious damage is general, particularly on the north slopes of the mountains and foothills, although trees in deep coves running east and west often escape injury. Six miles west of Ellijay, Georgia, short-leaf and scrub pines, which are fairly resistent species of forest trees, are often almost completely defoliated. Throughout the seriously injured area the included forest appears to have about one-half its normal density, due to the premature falling of the leaves.

Along the Murphy branch of the L. & N. Railroad the contiguous area of injury extends about eight miles, and beyond this limit appears at intervals as far as Culverson. This region is fairly protected from the fumes by a high mountain range.

Leaf injury of a serious nature was seen on the slopes north of the Hiawassee river, affecting in particular the white pine and the black oaks. With only a low narrow divide between the Hiawassee and Tellico rivers conditions are favorable for the fumes to be carried into Monroe county, Tennessee, when wind currents are in that direction.

The actual limits of the leaf injury was not determined. This injury is embraced under the third zone specified upon the map of Forester Holmes. Throughout the entire territory covered, with the exception of the road east from Ellijay to Stock Hill and the region along the Murphy branch of the L. & N. Railroad, previously referred to, both being protected by high mountain ranges, and occasional areas screened by mountainous barriers from the fumes, the injury was apparent. To locate the full extent of this would require a lengthy investigation, so long in fact, that such would be inaccurate when concluded, should the zone of injury increase as rapidly as it has

during the present summer. From the investigation made, however, it is unquestionably true that through the high stack of The Tennessee Copper Company and the increased smelting of the two companies, the third zone of leaf injury has been very greatly increased.

On comparing the increase in the seriously affected area the average of five conspicuous radii established a zone of serious injury with a radius of 21.6 miles from McCays, while on these same radii the limits noted by Forester Holmes in September, 1905, averaged 8.4 miles. The increase in territory based upon a circle passing through the average point afforded by said radii above mentioned would be as follows: Territory involved in the serious injury zone as disclosed by the investigation of Forester Holmes in September, 1905, 213.8 square miles; territory embraced in the zone of serious injury as disclosed by investigation of deponent in September, 1906, 1,481.4 square miles, or an increase of 1,267.5 square miles during the past year, approximating an increase of 592 per cent. since the investigation by Mr. Holmes one year ago. As previously stated, these figures are based upon averages afforded by five conspicuous radii. The injury is oblong in form, rather than in a circle, less than the average of the radii to the east and west and greater to the south and north.

While it is true that in the total territory embraced within the territory described by the radii above mentioned, there are a number of areas in which the forest trees have not been injured, such areas are either topographically protected from the fumes, or the wind currents have been such that the sulphur fumes have not visited same, and that other unprotected areas considerably beyond the limits afforded by the radii have suffered severe injury.

From the result of the investigations made it is clear that the continued liberation of the fumes will result in greatly increased damage and that each of said zones of injury may reasonably be expected to grow in proportion to the diffusion of sulphur dioxid throughout the adjoining territory.

A. B. PATTERSON.

Sworn to and subscribed before me, this 24th day of September, 1906.

HENRY C. TOWERS,
Notary Public, District of Columbia, U. S. A.

AFFIDAVIT OF D. A. JONES, FORESTER.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Gilmer County.

Personally appeared D. A. Jones, who, being duly sworn in the above stated cause, deposes and says:

Deponent is a woodsman, or forester and a timber surveyor by profession, and has been for the past twenty-four years, during which time he has followed his calling in the States of Kentucky, West Virginia, North Carolina, Tennessee and Georgia. Deponent's business embraces practical forestry, and in addition the examination of timber, relative to its commercial value, conditions, health and general surroundings, with special relation to lumbering and tanning purposes.

Deponent in the autumn of 1904 and in the summer and autumn of 1905 examined the timber in Fannin, Gilmer and Murray counties in the State of Georgia, the territory inspected covering the northern, central, eastern, southern and

western portions of Gilmer county; the central, eastern, southern and western parts of Fannin and the northeastern portion of Murray county. The examination in 1904 extending over about two months, and that of 1905 a still greater length of time.

In 1904 considerable damage to the timber and vegetation from the fumes generated by the copper plants at and near Ducktown was apparent. The damage, while widespread, was not uniform in localities equally distant from the copper works; was in many instances governed by the topographical conditions, and in particular localities often by the unequal resisting powers of individual trees. In other words, timber protected by intervening mountains or hills or at an altitude not usually reached by smoke, or located away from the main lines of depression would be but little injured when other timber further away, but not so protected would suffer greatly from the fumes. Again in the same locality and among trees of the same species, the resisting power of the different trees is by no means uniform. While some are killed others may show but little effects of the fumes.

Ducktown and the copper works are located in a depression in the mountains of Tennessee, Georgia and North Carolina, somewhat oblong in shape, with its main length in the State of Georgia, and extending in chief along the Toccoa (Ocoee) river and tributaries. This basin is in effect walled in by mountain ranges varying from 2,500 to about 4,000 feet high. The damage from the copper fumes is greatest along the valley and foothill region of the Toccoa (Ocoee) and tributaries, Turniptown creek, Connesauga river, and other localities similarly located and not protected by mountain barriers.

The investigation of 1905 disclosed a much greater injury resulting from the copper plants than was shown under the investigation of 1904, not only had the damage in the localities previously injured by the effects of the fumes increased, but the scope of injured territory had broadened greatly since the inspection of 1904.

For example, in the case of land lots Nos. 5, 6, 7, 30 and 32 in the Sixth District and Second Section of Gilmer county, about 21 miles by air or direct line from Ducktown, it was

shown by examination of 1904 that of the chestnut oak (the oak valuable for its bark (tan bark) as well as for its lumber) about 25 per cent. in lot No. 6, 50 per cent. in lot No. 7, 25 per cent. in No. 30 and 50 per cent. in lot No. 32 had been killed. The investigation of 1905 disclosed that about 85 per cent. in lots 5, 6, 7 and 32 and 70 per cent. in lot 30 had been killed. In other words, the damage from the fumes in 1905 was more than double that done up to the autumn of 1904. The white pine and hickory had suffered about the same injury, and the other timber in proportion to its resisting power. The power of the forest trees in the district affected to resist the killing effects of the sulphur fumes differ considerably, hickory, chestnut oak and white pine succumb most quickly, then the post oak, chestnut, yellow pine, hemlock, white oak, and poplar, in the order named.

In recent examination (1905) of deponent it was clearly exhibited that the hurtful effects of the fumes are experienced considerably over thirty miles. This is especially true of the territory about the headwaters of the Toccoa (Ocoee) river, and its southern tributaries. In lots 84, 85, 86 and 87 in the Sixth district, first section of Gilmer county, Georgia, the lots being in the extreme southeastern portion of the county, and between thirty-five and forty miles distant by air line from Ducktown, a considerable portion of the timber has been killed by sulphur fumes. About 40 per cent. of the chestnut or mountain oak has been killed in the last two years. Practically all of the hickory is dead, a large per cent. of the white pine and the remaining timber is damaged. In fact, the entire forest shows the injurious effect of the fumes.

Deponent in the course of his investigation about six miles southeastward of the town of Blue Ridge, obtained from a mountain top a complete view of the Toccoa Valley, and, with the aid of his glasses, minute view of the copper works at Ducktown. The wind was favorable to full observation, bringing the smoke down the valley to the west of which deponent was standing, and the smoke was not only discernible the entire distance from the works up the valley to a point opposite the deponent, but could be seen much further up the valley, and noticeably almost to the lots above specified. Intervening

hills obstructed the view of said lots, and for this reason deponent could not see whether or not the smoke could be seen for the entire distance. It was clearly discernible the major portion of the way, and to a point where intervening hills shut off the view.

In and around land lot 144 in the Sixth district and first section of Fannin county, about thirty miles from Ducktown, and twelve or fifteen miles north of the locality just before specified, the damage was very great. In land lot 144 about 75 per cent. of the chestnut oak has been killed within the past eighteen months or two years, and the timber generally injured in proportion.

To the westward about twelve miles from the last specified land lot and in the middle eastern section of Gilmer county, lie the land lots 5, 6, 7, 30 and 32 heretofore referred to, where the damage to and death of the chestnut, oak, hickory and white pine reaches the heavy total of about 85 per cent.

Still further to the westward in the locality of lot 119 in the tenth district and second section, about ten miles from land lots 5, 6, 7, 30 and 32 and 18 miles from Ducktown, 75 per cent. of the hickory and chestnut oak has been killed, and a large per cent. of the other valuable timber has been destroyed.

About twenty miles further to the northwest on the eastern edge of Murray county in the locality of lot 122, twenty-seventh district, second section, about fourteen miles from the copper plants, from 40 to 50 per cent. of the valuable timber is dead. The injuries do not appear to extend as great a distance in this direction as to the southward, there being intervening mountain ranges to protect the more distant localities to the westward.

In each of the localities heretofore specified the death of the trees has been of recent date, certainly in less than three years. The whole damage is by no means represented by the trees already dead. A large number in addition have been seriously injured and will eventually be killed if still subjected to the sulphur fumes. While deponent could not accurately state the full damage done by the sulphur fumes, it is beyond a peradventure true that same amounts to many thousand dollars. The damage to the forest and timber interests alone within the

territory inspected by deponent will exceed in deponent's opinion the sum of $125,000. Other localities than those heretofore specified by deponent have been injured to as great or greater degree, and the intervening timber between the points mentioned and Ducktown lying within the regions along the watercourses, or not barred by intervening mountains or foothills, has all suffered from the fumes.

To illustrate the destruction and value of the property destroyed, specific instances may afford a more definite idea. A land lot is 160 acres, there being four land lots to a square mile of territory. In land lots 121 and 122, seventh district, second section, in the southern portion of Fannin county, about 18 miles air line from the copper plants, a recent inspection by deponent disclosed the following conditions:

There have been destroyed within the past two years 1,047 chestnut oak trees; of the trees destroyed, 500 would have made 350 feet each of good lumber, same having a value of $437, and the remainder, 1,000 railroad ties of the value of $150. They would have furnished 300 cords of bark for tan bark, value of $900; 31 hemlock trees have also been destroyed which would have given 600 feet of lumber each, value $37, and 20 cords of bark, value $40; 15 white pine trees which would have averaged 700 feet of lumber to the tree were killed, value $105; 241 chestnut trees were killed, 50 of which would average 300 feet of good lumber to the tree, value $45, and the remainder 477 cords of wood, value $120; 154 white oak trees were killed, 30 of which would average 400 feet of quartered lumber and 75 trees 300 feet of plain lumber to the tree, value $127, the remainder would make 120 good railroad ties, value $15; 67 hickory trees were killed, which would have furnished 10,000 feet of good axle timber, value $100; also, 10 yellow pine trees averaging 300 feet of lumber to the tree, value $10, reaching a total of property destroyed in half a square mile of territory of value of $2,086.

In land lot 322 located in the central portion of Gilmer county the following condition was disclosed:

There have been destroyed within the last two years 861 trees of chestnut oak; 151 of these would have made 45,000 feet of good lumber, the remainder 1,000 railroad ties, the

value of the lumber being $135 and the railroad ties $150. In addition to this, these trees would have furnished 215 cords of tan bark of the value of $675; 30 chestnut trees were killed which would have made 60 cords of acid wood, value $15; 39 white oak trees were killed, 20 of which would have furnished 8,000 feet of good lumber, value $24, and 38 railroad ties of the value of $5.70; 59 hickory trees have been killed, which trees would have furnished 7,000 feet of good lumber, value $70, or a total of $1,094.70.

These values and figures are taken from a report heretofore made to the owners of said property, and were based upon the actual value of the timber and not upon its prospective value had it not been killed. In other words, some of the timber killed was not of the size specified for lumber purposes, and would have been more valuable to the owner to have permitted the same to grow to the requisite size rather than cut at the time same was injured. The death of the timber has been so rapid and so general throughout the territory affected that the timber killed can not be utilized unless the owner is actually logging in the immediate section. As soon as a tree dies the worms get into same and, as in the case of the lots just specified, the loss from the destruction of the timber is absolute. All the timber specified was wholly lost. The damages specified do not include timber merely injured.

A considerable portion of the land in Murray, Gilmer and Fannin counties is valuable mainly for its timber and for forestry purposes; that is not only for the timber now actually ready for milling but for future crops of timber. The rule among the lumbermen is to cut only the mature timber, timber 14 inches or more in diameter, and it is from this size timber that both the tan bark and lumber is obtained and, consequently, the land is made to furnish new crops of timber from time to time.

Within the smoke zone the value of forest lands, and for that matter orchards and farm lands, have been greatly decreased. In the matter of forests, in many instances property values have been decreased by half. The injury has not been by mere depreciation or failure of appreciation in value but by the actual destruction of property. If the sulphur fumes

continue not only will the remaining timber be destroyed, but the land will be rendered wholly useless for forestry and orchards and also, as a rule, for agricultural purposes.

While the damage to the deciduous trees, by reason of their not being in leaf, is not so great in Winter, the injury to the conifers is much greater. The principal conifers within the section subject to the Ducktown fumes are the white and yellow pine and hemlock. The former are particularly valuable for the high grade lumber furnished and the latter for both its bark, which is used for tanning, and its lumber. These trees bear their foliage throughout the Winter and by reason of the coldness, as well as the dampness of the atmosphere, the sulphurous gases cling much closer to the earth, and these trees are not only subject to stronger fumes but have not even the aid of the deciduous trees in purifying the atmosphere.

Under the production of the gas as now generated, the damage to the forests is steadily increasing and will continue to increase from day to day. Deponent is informed that under the new works in course of erection by one of the copper companies the production of sulphurous gas will be probably doubled. If this be true not only will the injuries be multiplied but the damage will be much more quickly wrought by the reason of the additional strength and volume of the fumes, and in addition to all this, a large amount of territory now free from positive injury will be brought within the harmful influence of the poisonous gases.

D. A. JONES.

Sworn to and subscribed before me this the —— day of November, 1905.

E. BUFFINGTON, C. N. P.,
Notary Public of Gilmer County, Georgia.

AFFIDAVIT OF L. D. ROGERS, TIMBER INSPECTOR.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared, L. D. Rogers, who, being duly sworn in the above styled cause, deposes and says:

Deponent is a resident of Gilmer county, Georgia, and has been since 1843, and since the year 1861 has lived upon lots 324 in the 7th Dist. and No. 1 in the 6th Dist., 2d section in said county.

Deponent has been a woodsman and timber inspector for about eighteen years, and during said term has spent a considerable portion of his time in the inspection and care of forest in Murray, Gilmer and Fannin counties, in the State of Georgia. The forest in said counties up to about three years ago was generally healthy and no unusual conditions were apparent. In the immediate neighborhood of Ducktown, that is close to

the Georgia line, some injury to the timber was noticeable a little earlier than 1902, but it was not until the summer or autumn of 1902 that anything like widespread injury was becoming apparent. From 1902 until the present time the injury to timber has been both enormous and widespread. Throughout a considerable portion of Gilmer and Fannin counties and the northeast portion of Murray county a large per cent. of the valuable timber has been destroyed, which destruction has resulted from the sulphurous gases generated by the copper companies at and near Ducktown and Isabella, Tenn. The timber suffering the greatest damage has been the hickory, white pine, chestnut oak and chestnut, but the forest generally has been much injured. Deponent's home place is situated about thirty miles distant in direct line from Ducktown. Practically all hickory, chestnut, white pine and chestnut oak on said land lots have been killed within the last two years and a large amount of the remaining timber either killed or injured. The injury to the timber is first apparent in the top and upper branches of the trees, and later extends over the entire tree. In the locality of deponent's home the odor of the sulphur fumes is both frequent and strong. When the wind is from the north the smoke and sulphurous gases are often so thick that they cloud the atmosphere and produce a heavy haze. The deponent lives upon the waters of Little Turniptown creek, and not only has the timber been killed as heretofore stated, but the fruit as far distant as deponent's home place has failed and upon his own place the fruits have been killed, and he has even been unable to make good fodder upon his farm. Deponent has also been practically forced to quit gardening, as his garden products were sometimes killed by the sulphur fumes in a single night. Up to the spring of 1903 deponent was very successful in raising garden vegetables, cabbages and the like, but since that time his garden has been a failure, and often after a night when the sulphur fumes were particularly strong the growing vegetables on the following morning would appear as though they had experienced a severe frost, and sooner or later would wither away and die. The damage seemed to be greater during the night than in the day time, probably by the reason of the air being colder and thereby causing the gases to stay closer to the ground.

The damage to forest, orchard, crops and garden during the past three years has been enormous. Thousands of dollars' worth of timber have been utterly destroyed and a large amount injured, which will also be ultimately destroyed if the copper companies continue to operate. In fact, a considerable portion of land valuable for forest and agricultural purposes will be rendered well-nigh, if not wholly, valueless if the copper works continue to produce the sulphurous smoke.

It will be difficult to state accurately the damage already done by the sulphur fumes. In many portions of the section liable to the fumes, as for instance, in the case of lots 5, 6, 7, and 30, in the 6th district, 2d section of Gilmer county, already nearly all the valuable timber has been killed, certainly more than three-fourths of same. In other sections equal damage has been wrought while in still others the injury is not so large. Certainly more than $100,000.00 of timber alone has been destroyed upon the lands inspected by deponent. Continued production of the gases will of course result in infinitely greater damage.

A short distance from deponent's home, from Aaron mountain, a few miles east of Whitepath, Ga., the Ducktown works are in view, and deponent has frequently traced the smoke from Ducktown along the Toccoa river and Stanley and Cherry Log Creeks to points further distant than said Aaron mountain. The smoke, as a rule, appears to follow the valleys and lower lying lands along the rivers, creeks and the branches flowing into same. Aside from the actual damage wrought by the sulphur fumes, the odor is extremely disagreeable and unpleasant, and deponent, among others, suffers more or less discomfort therefrom. When the wind is in the north the fumes are blown down the valleys. A major portion of the time the wind is in the north within this particular territory, and blows the smoke in the direction of and over the Georgia territory.

L. D. ROGERS.

Sworn to and subscribed before me this the 9th day of November, 1905.

J. L. WEAVER,
Notary Public of Gilmer County, Georgia.

AFFIDAVIT OF E. BUFFINGTON, TIMBER INSPECTOR.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM. 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Gilmer County.

Personally appeared, E. Buffington, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident of Gilmer county, Georgia, and is now and has been for the past year postmaster at East Ellijay, Georgia, but for about fifteen years prior thereto was a timber estimator and nursery agent operating mainly through the counties of Gilmer, Fannin, Union and Murray. About fourteen years ago deponent first made a thorough inspection and examination of the timber in said counties, inspection being made for J. W. Duckett, a timber contractor. At the time of said inspection the forests of said counties were generally healthy in appearance and condition, and abounded with valuable timber. In the subsequent inspections the timber contin-

ued to exhibit a healthy appearance until about three years ago, at which time injuries to the timber, particularly the hickory, chestnut oak, white pine and chestnut was becoming apparent; since that time the destrution of the timber, particularly in Fannin, Gilmer and the northeast portion of Murray county, has been very great. The death of this timber can be attributed to nothing but the sulphur fumes generated by the copper companies near Ducktown, Tennessee.

Deponent was forced to give up his nursery business for the reason that the smoke and fumes from said furnaces so injured or destroyed orchards that a sale of fruit trees within the smoke-infested locality, which extended throughout Gilmer, Fannin and part of Union counties, could not be made.

E. BUFFINGTON.

Sworn to and subscribed before me this the 10th day of November, 1905.

J. L. WEAVER,
Notary Public of Gilmer County, Georgia.

AFFIDAVIT OF A. E. SHARP, LUMBERMAN.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared, A. E. Sharp, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a lumberman and has been engaged in said business for the past fourteen years, and during said time, while engaged in his business as aforesaid, has inspected considerable timber in the counties of Murray, Gilmer and Fannin, in the State of Georgia.

Up to a very recent date, that is to say, about the year 1902, the forest throughout said counties were as a rule prosperous and healthy, but about 1902 damage to the timber was becoming apparent, which damage has rapidly increased up to the present time. A large amount of the valuable timber in said counties, particularly the hickory, white pine, chestnut oak

and chestnut, have been killed. The death of which timber is attributable to no other source than the sulphur fumes generated by the copper companies near Ducktown, Tennessee. The destruction of timber by the sulphur fumes is well-nigh daily on the increase, and if continued will result in a loss of practically all the timber within Gilmer and Fannin counties, and also the northeastern portion of Murray county. Upon the property personally inspected by deponent thousands of dollars of timber has been destroyed. Not only are the forest trees injured by the sulphur fumes, but the fruit crop has been almost wholly destroyed and the orchards within the scope of said fumes badly injured. If the production of the sulphurous gases continue both the lumber and orchard interest within the section reached by said fumes will soon be entirely destroyed.

A. E. SHARP.

Sworn to and subscribed before me this the 10th day of November, 1905.

E. BUFFINGTON,

Notary Public of Gilmer County, Georgia.

AFFIDAVIT OF M. L. MAUNEY.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared M. L. Mauney, who first being duly sworn in the above stated cause, deposes and says:

That he is a resident of Murphy, Cherokee county, North Carolina. Deponent is fifty-three years of age, and is by profession a forester or timber man, and has been engaged in his vocation, cruising, buying and selling timber lands and timber in the counties of Gilmer, Fannin, Union and Towns, State of Georgia, for the past four years, during which time this deponent has been constantly in, upon, over and through the timber in said counties and is thoroughly familiar with same, its market value, condition and location.

This deponent has been to the works of the above defendants in this case and has come in contact with the gases and fumes that are generated there, so that he has become thor-

oughly acquainted with same. Has also noticed the destruction of timber and vegetation caused by these fumes immediately about the different plants, and has traced these effects from said plants thirty-five or forty miles into the territory of this State. The destruction to timber and vegetation with rare exceptions grows less and less as the distance from the above plants increases. Deponent had heretofore noticed destruction to timber, such as hickory, white pine, chestnut oak and chestnut in the mountains, usually on the north side, which is always the side towards Ducktown from this territory, where usually the best timber is always found. Since May, this year, deponent has noticed that this destruction has been multiplied many times over anything that he has ever noticed before. Deponent further states that during the month of May, June and July, this year, that he has often seen and smelt these gases from these defendants' works which would settle down in a particular country and would be strong and offensive to the smell. In a few days afterwards acres of timber in this neighborhood where the smoke had dropped would turn yellow and the leaves brown and shriveled up the same as if the timber had been deadened or struck by a heavy frost or fire, and the leaves would wither, dry up and fall off. This would occur with all varieties of timber in the locality where the smoke had visited and seemed to respect nothing. It would kill the old, young and all vegetation, making a clean sweep of every thing on the ground. This has been particularly noticed in the Wilscott mountain, the Davenport mountain, and other mountains near them. Said mountains being situated in Fannin county, Georgia, some twenty miles from the defendants' works. Never before until this summer has this deponent seen or noticed these fumes anything like so often, nor near so strong and in such a condensed form as they have appeared all throughout this territory at almost all hours of the day or night whenever the wind was in the direction of the defendants' plants. Particularly was this noticed during the months of May, June and July of this year above referred to.

During the above mentioned time and during deponent's

experience in this State he has been actively employed in the woods by Lucius Beebe & Sons, of Boston, Mass., and the United Sates Leather Company. Deponent from the tops of some of the mountains in this State has seen the high stack of the defendants, and has watched the smoke and fumes drift out of the stack and settle into the territory of this State, and this deponent knows from his own experience and observation that the fumes coming from this stack in their present concentrated form are far more deadly to all timber and vegetation than any other process that has been used in this territory for the past four years. The high stack, in deponent's opinion and knowledge, only tends to concentrate the fumes and gases and give them a better carrying power so that the prevailing winds drift them much further into the territory of this State, and make them far more deadly to all vegetation where they settle, as I have seen them do repeatedly during the months of May, June and July above referred to.

M. L. MAUNEY.

Sworn to and subscribed before me, this the 21st day of August, 1906.

W. T. PICKETT.
Notary Public, Gilmer county, Georgia.

SECOND REPORT OF GEORGIA'S COMMISSION IN 1906.

Atlanta, Ga., September 24, 1906.

To His Excellency, J. M. Terrell, Governor of Georgia:

We, the commission appointed by the General Assembly of the State of Georgia, and approved by your excellency, to investigate the destruction of vegetation in North Georgia by fumes from the smelters of The Tennessee Copper Company and The Ducktown Sulphur, Copper & Iron Company, at and near Isabella, Polk county, Tennessee, beg to report:

In further pursuance of our duties above set forth, we revisited the counties of Gilmer and Fannin during the third

week of September, 1906, and reinspected considerable of the country visited by us on our former inspection, the latter part of August, 1905. We find the area of serious injury to timber and other vegetation vastly increased in every way in the territory of this State since our last visit. The high stack of The Tennessee Copper Company has in nowise relieved the situation. On the contrary, we find the evil spreading at an alarming rate in all directions. Particularly is this true of the territory along the Cherry Log, on Rock Creek, Gilmer county, Georgia; Boardtown Creek, and the ridges surrounding the same, territory immediately surrounding and north of Whitepath, the ridges to the southwest, west and north of Ellijay, all in Gilmer county, being territory situated from fifteen to thirty miles south and southwest of the copper plants. At all of these places last year, the injury was scarcely perceptible; but on this trip the injury was heavily marked on all sides, the trees are brown and seared, and the leaves are falling fast, so that the woods are now covered thick in many places with withered leaves that budded fresh this spring.

The ridges to the north and west of Blue Ridge showed serious injury to almost all the timber. The town of Blue Ridge, Fannin county, is situated on the backbone of the Blue Ridge mountains, and from a hill situated a little to the northwest in the corporate limits of this town, a perfect view of the fumes in column from both of the copper plants situated in Polk county, Tennessee, some twelve miles distant, could be seen, and all intervening country for miles around was plainly in sight. We could trace the immense volumes of fumes, as discharged from the smelters and furnaces of each of the plants drifting out over the country, uniting and settling into the timber on the surrounding mountains. The ridges in view all about us as far as the eye could survey, looked brown and seared, as if the whole forest in every direction had been visited by severe frosts and at least three-fourths of the timber within the area appeared to be seriously affected. The conifers particularly, were badly affected. The deciduous trees in many cases had almost entirely shed their leaves, and the ground was covered thick with the same that had been green and vigorous this spring.

We visited and carefully inspected the same territory last

year, and the timber in this immediate neighborhood showed only slight injury, then.

In journeying from Ellijay towards the direction of the smelters, the injury rapidly increased. On this trip we found greater injury at Ellijay, some twenty-seven miles from the smelters, than we observed last year some seven miles from the same, so that this season has, in our knowledge, clearly carried the serious injury to vegetation at least twenty miles further into territory of this State.

Our investigations this year have more than verified our apprehensions of last year, as the injury and damage has increased much more rapidly than we had predicted, and it is our opinion that if this damage be not immediately abated, the whole of this section of our State will be irreparably ruined and lost to its present owners and our commonwealth.

Respectfully submitted.

T. G. HUDSON,
Commissioner of Agriculture.
JNO. M. MCCANDLESS,
State Chemist.
W. S. YEATES,
State Geologist.
WILL H. SHIPPEN.

AFFIDAVIT OF CHARLES A. KEFFER, FORESTER FOR STATE OF TENNESSEE.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-stated cause, deposes and says as follows:

Deponent is a resident of Knoxville, Tennessee, and is at present professor of horticulture and forestry in the University of Tennessee. From 1896 to 1899 deponent was assistant chief of the Division of Forestry, United States Department of Agriculture. He believes his studies and opportunities have given him superior advantages in forming an opinion on the subjects discussed in affidavits presented herewith as exhibits "A" and "B." The examinations referred to therein were made at the request of Mr. Charles Seymour, of Knoxville, Tennessee. Deponent has no personal interest in the premises.

CHARLES A. KEFFER.

Sworn to and subscribed before me, this 18th day of September, 1906.

W. T. PICKETT,
Notary Public, Gilmer county, Georgia.

"A."

Saturday, June 16, 1906.

I noted from point on Bell Knob almost due east of stack of Isabella works, that the woods on west face of this knob were almost all dead, except that within 200 feet of the top, on north face, towards east, is a cove where timber seems uninjured at a distance, but on going through it many dead trees are found, and the characteristic brown discoloration of the leaves.

In ravine one mile from stack of Tennessee Copper Company, and two miles from Isabella works, found sourwood leaves much affected; a little farther on, dogwoods half dead. These were the only trees alive.

From Bell Knob we rode down south face of ridge eastward to the south of Anglico Gap, and up through Franklin Gap, climbing the mountain to the left of Franklin Gap (going from Ducktown) nearly to its top, some five miles from both works. On this face of the mountain, as compared with the Ducktown basin, little damage has been done, though there are dead trees everywhere, and very few trees are in vigorous health. As a whole, the forest would be called sickly.

Returning through Anglico Gap on main road to Stewarttown we stopped at cabin in border of woods (no live woods beyond this towards Ducktown), whose owner told us that at his place more damage resulted from smoke of smelter (Ducktown, not Isabella) than had been caused by the roasting process. He had a garden—beet foliage badly killed by fumes, but corn, onions, cabbage and beans unharmed—showed us one place in cornfield that he had replanted where first stand was destroyed by fumes. Everywhere I noticed that trees of the same species were not equally injured; would find a blackjack oak with leaves badly spotted, while a nearby tree of same kind would be uninjured in its leaves.

After we reached McCays a very heavy rainfall. Sunday morning the river had risen three feet.

During the afternoon the wind changed from south, whence it blew steadily in the morning, to east and north, then back from south again.

In the afternoon at 4 p. m., the Big Frog Mountain could not be seen for fumes, and the Little Frog very dimly.

Sunday, June 17, 1906.

Crossed the river and into Georgia at McCays, and rode towards Epworth College, some four miles.

On heights just above river all trees facing Ducktown, almost without exception, were dead or in very bad condition. In coves away from Ducktown the tops of tall trees were dead or dying, while many small trees showed little injury at present, though in sapling white oak many topmost branches were dead. The black oaks, as a class, much more damaged than white oaks.

Went out the Ellijay road three miles or more, then crossed through the woods to Epworth College. In the lowlands the damage to the forest growth is everywhere less than on the ridges. Just beyond the college is a ridge running a little east of south, direction south by southeast from Ducktown. Both sides of this ridge face almost equally to Ducktown, the crest being almost in line with it. The soil is clay sand, poor, and blackjacks the dominant species, with white and post oak, black oak and a few others. The trees are in very bad shape, some young (2-5 in.) saplings of white oak little injured, but blackjack worst of all. Most of the latter showed marked leaf injury and much dead wood. Some sapling white oaks not injured at all, but most have a little leaf spot.

On the first ridge beyond Epworth (a little east of south of stack), there are black, red, blackjack oaks from 12-20 inches diameter, not a single healthy tree—all with large dead branches in crown, and thin foliage. One large white oak 18 inches in diameter had thin foliage and many small dead branches. Men in neighborhood say place is four miles to four and a half to McCays—barometer reads 1,850 feet, level shows a little higher than stack. About two miles of forest in straight line between this point and stack, very few clearings except around Epworth, and these all small. Trees

here the largest yet found, either south or northeast of copper works. Fumes blowing east almost level with top of stack (no breeze here) and making the mountain we were on yesterday very hazy as seen from here.

At Turtletown Station the injury is equal to that at Epworth, as observed in passing on railroad train.

At Farner much less injury observed than at Turtletown---but still very apparent, especially in mature trees.

Ellijay, Ga., June 30, 1906.

Rode out with Mr. Shippen on Big Turniptown creek; ascended Walnut Mountain, some twenty-five miles from Ducktown, then continued up the creek. When about a mile beyond Walnut Mountain opposite a gap in the range between us and Ducktown, I smelled SO^2 gas distinctly for a moment and called Mr. Shippen's attention to it. He smelled it also. All along the way there were many dead and dying trees on the north slopes—and especially on low ridges running north and south—on which both faces showed injury. In several cases the leaves, especially of hickory and blackjack oaks, showed the same injury I had observed near Ducktown.

The coves of the north slopes of Turniptown Mountain contain a fine growth, many large trees of poplar and the oaks. A portable sawmill was sawing poplar and oak logs 16 feet long, 3 feet diameter and perfectly sound.

Of the standing trees, especially on the higher slopes of that mountain, many were dead, and the very great majority had many dead limbs in their top—the injury quite as bad as recorded of ridge a mile or two south of Epworth.

Sunday, July 1, 1906.

Rode from Ellijay to Whitepath, and rode along the south side of the gap through which we smelled the fumes yesterday. The road lay through the valley of Turniptown creek, and past the Whitepath hotel. The low ridge to the right saw a great many trees dead in the timber—on north slope and crest of ridge (towards Ducktown). Hickory and chestnut oak dead almost without exception, and the white pines were many dead

and dying. Near the road many trees showed injury to the foliage, but on the slope of the ridge we saw the most injury. Almost every old tree, both along the road and as far as we could see, had many dead branches in the crown.

Immediately opposite the station at Whitepath is a growth in which white pine is the dominant tree—from 50 to 100 feet high. All the pines within sight of the station are either sick or dead—not a single healthy white pine tree.

Ellijay, July 7, 1906.

On Little Turniptown creek, just beyond (up stream) from the Holt farm, on a due northern slope, is a growth of white pine intermixed with hardwoods (principally oak). A pine 26 inches in diameter, breast-high, that will make four 16-foot logs in trunk (diameter of trunk at 54 feet from ground estimated 18 inches) is dying—should say, from its appearance, can not put forth leaves next spring. Several white pines on the ridge already dead, a dozen or more within sight of one above noted dying; none in vigorous health.

In ascending along Little Turniptown creek, in the fourth of a mile along the road immediately above the Holt farm, I counted from the saddle seventy-six white pines on the north slope and in the creek bottom, over fifty of which were fifty or more feet high, and of these only three were in health, two of which were in the creek bottom; several were dead, and the great majority were very sick, indicated by scanty and brownish foliage.

As we proceeded up the creek the number of dead hardwoods greatly increased—over half the mature trees were dead or dying.

On the ridge to the south of L. A. Rogers' farm is a gap between higher ranges to the east and west, and farther south, perhaps a mile distant, is Walnut Mountain, on which is the orchard visited. This Rogers' gap has more timber killed by smoke than any place visited in vicinity of Ellijay. The mature trees alive, with few exceptions, are black or yellow oak (quercus tinctoria), blackgum and a few half-dead chestnuts—found one live hickory 10 inches in diameter on crest of ridge. There is hardly a mature tree but has many dead branches in

its crown, and not one that is vigorous. Many young sprouts of hickory, especially, show badly discolored foliage.

The soil is very poor and would not support a luxuriant forest growth, such as is seen in the coves, but here the timber is practically all dead and dying. No evidence of recent fires. Sprouts three to five feet high show no fire injury. Fully three times as much dead timber was on the north slope of this ridge (towards Ducktown) as on the south slope.

From the headwaters of Little Turniptown creek I went to the top of Chestnut Mountain (barometer reading 2,000 feet higher than Ellijay). There is a clearing along the summit and north side of this mountain—whence an uninterrupted view to and beyond Isabella. The stack of the Isabella smelter plainly visible, and to the left the fumes from the Ducktown smelter—wind from the south, and the fumes from the two stacks merged and were blown together, as seen from Chestnut Mountain. From this height I observed that there were no high mountains between this and the Ducktown basin, but on either hand, and beyond Ducktown high mountains seemed to hem in an irregular valley, which is traversed in all directions by ridges that are low as compared with the surrounding mountains. It is the timber on these lower ridges that has been injured. A careful inspection of the timber on the higher part of Chestnut Mountain revealed no injury; near its base sickly and dead trees were found, and as above noted, the forest growth on the lower ridges, especially on north slopes, crests and where ridges run north and south, both sides showed marked injury as compared with south slopes.

It is apparent that much of the dead timber has died during the past few years. Everywhere, as in any uncared for forest, one may see an occasional dead tree with indication of having been dead several years. But not only are there many dying trees, and many others with very thin crowns and dead branches, but of the dead trees the condition of the bark shows that they have died within the past two years.

The injury is not the same in all species. Among the most susceptible to injury by the fumes are the white pine, hickory (all species), chestnut oak. Swamp maple (acer rubrum) is very resistant to the fumes. Trees of this species can be found

between Ducktown Station and the Ducktown smelter, though I recall no other woody plants there.

It is also to be noted that all the trees of a species are not injured to an equal degree in the same neighborhood. One may find a young white oak evidently in bad condition with another of the same species near at hand unharmed. Among kinds named as especially liable to injury, however, very few healthy trees can be found in exposed localities.

Fannin County, July 8, 1906.

This morning rode out the river road nearly due south, and for the first four miles after leaving East Ellijay bridge saw much dead and dying timber on both sides of the road. The majority of trees sickly or dead. Much brown foliage observed, especially in chestnut oak, chestnut, hickory and blackjack—hardly a single chestnut of any size but has many dead branches in its top.

At S. H. Harper's place, six miles south on Cartecay river, thirty miles or more from Ducktown, at ford, white pines along streams all injured or dead—no very large ones, as near Holt farm, but all show some injury—foliage thin and turning brown.

The road turns westward beyond Harper's, and for four miles beyond to Clear Creek church and returning via Cartecay river, less injury was observed, this region being protected to the north by high ranges.

The impression left on my mind as the result of my three visits to the region is that the forests of the low ridges and the lower slopes of the high mountains, reached by the fumes from the smelters at Ducktown and Isabella, are being injured by these fumes. The fumes have damaged and destroyed and continue to damage many valuable timber trees and young timber as far remote from Ducktown as Clear Creek, in Gilmer county, Georgia. The injury between this point and Ducktown is not of equal intensity, but varies with location, the slopes and crests of ridges facing or parallel to Ducktown showing greatest injury. While many of the species damaged are of little economic value (as the blackjack oak), others are of the greatest value (hickory and white pine), and the

entire destruction of the forest, as a source of timber, seems certain if present conditions are permitted to continue.

I, Charles A. Keffer, set out as above notes made by me on the dates and at the places named, and make oath that they are true and correct.

CHARLES A. KEFFER.

STATE OF TENNESSEE—County of Knox.

Personally came before me Charles A. Keffer, who subscribed the foregoing statement and made oath that same is true, this 23d day of July, 1906.

NORMAN B. MORRELL,
Notary Public.

"B."

Ellijay, Ga., September 18, 1906.

On Sunday afternoon, September 16, 1906, I drove out the Tails Creek road from Ellijay, Ga., to Yancy church, between three and four miles southwest, the road crossing and following low ridges and valleys. Returning, I drove out about two and a half miles northwest of Ellijay, on the Dalton road. On both of these roads many trees were seen on which the leaves were brown, and in some cases most of the leaves had fallen from the trees. It was evident that much the greater part of this injury was of recent occurrence. The injury observed along these roads was not continuous; that is, I passed through acres where no recent injury was seen, then there would be very considerable injury apparent. In no place were all the trees injured. Generally speaking, the black oaks (as distinguished from white oaks) showed more injury than any other trees.

On September 17th I rode over much of the territory visited on July 7, 1906, and while there is no indication of additional injury to the forest in some places, in others the injury is very much more marked than it was on that date. Throughout the ride, covering about thirty miles, only two vigorous hickory trees were seen, while a great many hickory trees in size from young saplings to trees over eighteen inches in diameter, showed foliage much browned or fallen. It is not too much

to say that the hickory of all species throughout the region of Ellijay is threatened with complete extinction, and is practically destroyed. It is evident, too, from the large number of saplings that this forest was well stocked with hickory.

Viewed from the first ridge toward Ellijay from Stoner Gap (about twenty miles from Isabella) the forest on Stoner Gap had a brownish tinge, and even at that distance, about two miles, I saw many trees quite brown, indicating severe injury.

In tract No. 5, in the sixth district, second section of the Shippen Bro.'s Lumber Company's land, which I visited when here on June 30th, and which at that time showed scarcely any damage, being cove land covered with trees of large size, the forest as seen from the ridge above mentioned showed brown foliage, indicating an injury incurred since my previous visit.

From Chestnut Mountain (about eighteen miles from Isabella) the basin toward Ducktown comprising a wide extent of forest, with comparatively few farms, shows greatly increased injury over what was observed from this point by me on July 7, 1906. The stack of the Isabella works can be seen from Chestnut Mountain, and high mountains rise to right and left, forming a basin traversed by many low ridges. In this basin the general color tone of the forest, as seen from Chestnut Mountain, is of a brownish cast, instead of the deep green which it should show at this season if in health. Roughly speaking, I should say that one-fourth of the trees at the foot of Chestnut Mountain were browned, while fully half of the trees about Cherry Log showed severe injury.

Descending the mountain and passing along the road toward Cherry Log (about sixteen miles from Isabella) closer inspection showed the injury to be fully as great as appeared from the mountain. Everywhere trees of many species had their leaves browned, and in many cases more than half of the leaves had fallen, giving the trees the appearance of late autumn. There were several tracts where white pine was numerous, and almost without exception these trees showed very great injury. I do not believe this species can withstand existing conditions another year. The red and black oaks are so generally injured that a healthy specimen is exceptional. Chestnut is

leaf spotted and its leaves are falling. Indeed, the forest shows such marked injury that one is impressed with a grave sense of the danger of its total destruction within a short time unless the cause of injury can be removed.

About one mile north (approximately) of Whitepath, there is a cross ridge, which marks the limit of the very severe injury last described. From this ridge toward Ducktown the forest of the basin, as far as can be seen, shows marked injury. From this ridge toward Ellijay the injury is more local in character and is less marked.

From examinations made in the neighborhood of Ducktown and Isabella and reported in my affidavit of July 23, 1906, I am convinced that the same cause which has destroyed the forest in that region is working injury to the trees herein mentioned, and I believe this injury to be due to fumes from the copper smelters at Ducktown and Isabella. The injury to the forests herein mentioned is unquestionably much more severe and more extensive than when I looked over this region in July. If the same rate of increase of injury is maintained I have no doubt the forest throughout the region will be practically destroyed in a few years.

I, Charles A. Keffer, set out as above notes made by me on the dates and at the places named, and make oath that to the best of my knowledge and belief that they are true and correct.

CHARLES A. KEFFER.

Sworn to and subscribed before me, this the 18th day of September, 1906.

W. T. PICKETT.
Notary Public, Gilmer county, Georgia.

EXTRACTS FROM BULLETIN 7, U. S. DEPARTMENT OF AGRICULTURE—"FOREST INFLUENCES."

BEING REPORTS OF THE INITIAL FEDERAL INVESTIGATION IN THIS CONNECTION, THE REPORT UNDER TOPIC, "RELATION OF FORESTS TO WATER SUPPLIES," AND THE FINAL REPORT AND SUMMARY OF CONCLUSIONS BEING BY B. E. FERNOW, THEN CHIEF OF FORESTRY DIVISION.

RELATION OF FORESTS TO WATER SUPPLIES (B. E. FERNOW).

"An element tending to increase the amounts of subterranean drainage waters lies in the retardation of the surface flow, by which the time is lengthened during which the soil may take up and filter through rain and snow waters."

"The forest floor offers such impediments to surface flow and not only in greater degree than any naked soil, but than any other vegetation. An advantage over other kind of vegetation is also found in the deep penetration of the roots of the trees, which increases the chance for percolation. All that has been said regarding evaporation and transpiration within and without the forest needs also be kept in mind in the discussion of the amounts of drain waters for underground disposal."

"The conclusion, then, is that in general a forest floor, although retaining much of the water in its upper strata, allows less water to run off superficially, and by rendering the soil more permeable, larger amounts of water are turned into subterranean channels." (Page 152.)

"The most direct influence of a forest cover upon the discharge would be noticeable on the surface springs, since in these the catchment area and the place of discharge lie close together, while the underground run is not only short, but lies near the surface, and hence experiences most sensibly the effect of the protection against evaporation which the forest

cover offers. Deforestation here would no doubt reduce or cut off discharge entirely. (Page 156.)

"It is in the first place this mechanical obstruction which a forest floor more than most other kinds of vegetation offers, which changes the distribution in time of surface waters, that constitutes the forest an influential factor in water-flow.

"The great number of inequalities which the forest floor offers, in addition to the trunks and stumps and fallen trees, forces the run-off to many detours, thus retarding its flow and its collection in the open runs and brooks.

"The retardation in the water-flow begins even before the rain has reached the soil, for the leaf canopy catches and re-evaporates, as we have seen, from 12 to 25 per cent. of the total fall, and certainly retards the fall of the water to the ground, as can be readily observed; long after the rain has ceased the water keeps on dripping from the foliage. Thus, although most of the water reaches the ground at last, except in case of very light showers, yet the devious ways in which it reaches the soil makes the flow of water from a forest-covered hill longer in time than if the rain had fallen on a bare slope. As the result of a long-continued precipitation, it would be under the same conditions by an unforested slope, but this stage occurs in the forest later than on unforested soil and later still than on naked soil.

"The great importance of the factor of time in surface drainage, both as regards dangers from freshets and erosion of soil, will be more readily appreciated when we remember that the dangerous waters in the mountains are generally of short duration.

"A difference of 1,000 to 2,000 cubic feet of water per second from a square mile of watershed may often determine whether a dangerous flood is experienced or not. And since a square mile of moss-covered forest floor is capable of absorbing from 40,000,000 to 50,000,000 cubic feet in, say, ten minutes (a humus cover is capable of taking up 50 per cent. of its own weight), nearly all of which the naked soil would give up some twelve to fifteen hours earlier, the surface

conditions of the watershed must in many cases be determinative in the excesses of water-flow in rivers. (Page 158.)

"This important fact should at least be recognized, that the surface conditions of the soil of a watershed are the only controllable factors in the problem.

"By this protection of the soil the so-called torrential action of water is prevented, which, as the history of some departments in southern France has shown, is capable of devastating thousands of acres of fertile land by carrying the detritus into the valleys and depositing it there. At the same time the reforestation work of the French Government has also progressed far enough to furnish proof that the reclothing of the denuded hills is the practical remedy against these torrents.

"Not only were the mountain sides themselves devastated and made useless by the destructive action of the water, but fertile farms for 200 miles from the source of the evil were ruined by the deposit of the débris, and the population pauperized and driven out.

"According to M. Demontzey, forest administrator of France, it was estimated, in 1866, that area of denuded mountain lands needing reforestation was 2,964,000 acres. The Government has taken hold of the restoration of the most-needing area, some 780,000 acres, on which so far some $10,000,000 have been expended, while private owners and communities have increased this expenditure for the repair of past follies to over $30,000,000, which is estimated to be about one-half of what is necessary.

"How in our own country this erosive and destructive action of water is at work, even in the hill country, is thus graphically described by Mr. McGee, in speaking of the bad lands in the State of Mississippi:

"With the moral revolution of the early sixties came an industrial evolution; the planter was impoverished, his sons were slain, his slaves were liberated, and he was fain either to vacate the plantation or greatly to restrict his operations. So the cultivated acres were abandoned by thousands. Then

the hills, no longer protected by the forest foliage, no longer bound by the forest roots, no longer guarded by the balk and brush dam of the careful overseer, were attacked by raindrops and rain-born rivulets and gullied and channeled in all directions; each streamlet reached a hundred arms into the hills, each arm grasped with a hundred fingers a hundred shreds of soil, and as each shred was torn away the slope was steepened and the theft of the next storm made easier. (Page 159.)

"So, storm by storm and year by year, the old fields were invaded by gullies, gorges, ravines, and gulches, ever increasing in width and depth until whole hillsides were carved away, until the soil of a thousand years' growth melted into the streams, until the fair acres of ante-bellum days were converted by hundreds into bad lands, desolate and dreary as those of the Dakotas. Over much of the upland the traveler is never out of sight of glaring sand wastes where once were fruitful fields; his way lies sometimes in, sometimes between, gullies and gorges—the "gulfs" of the blacks, whose superstition they arouse, sometimes shadowed by foliage, but oftener exposed to the glare of the sun reflected from barren sands. Here the road winds through a gorge so steep that the sunlight scarcely enters, there it traverses a narrow crest of earth between chasms scores of feet deep in which he might be plunged by a single misstep. When the shower comes he may see the roadway rendered impassable, even obliterated, within a few minutes; always sees the falling waters accumulate as viscid mud torrents of brown or red, while the myriad miniature pinnacles and defiles before him are transformed by the beating raindrops and rushing rills so completely that when the sun shines again he may not recognize the nearer landscape.

"This destruction is not confined to a single field nor to a single region, but extends over much of the upland. While the actual acreage of soil thus destroyed has not been measured, the traveler through the region on horseback daily sees thousands or tens of thousands of formerly fertile acres now

barren sands; and it is probably within the truth to estimate that ten per cent. of upland Mississippi has been so far converted into bad lands as to be practically ruined for agriculture under existing commercial conditions, and that the annual loss in real estate exceeds the revenues from all sources. And all this havoc has been wrought in a quarter century. The processes, too, are cumulative; each year's rate of destruction is higher than the last.

"The tranformation of the fertile hills into sand wastes is not the sole injury. The sandy soil is carried into the valleys to bury the fields, invade the roadways, and convert the formerly rich bottom lands into treacherous quicksands when wet, blistering deserts when dry; hundreds of thousands of acres have thus been destroyed since the gulleying of the hills began a quarter century ago. Moreover, in much of the upland the loss is not alone that of the soil, *i. e.*, the humus representing the constructive product of water-work and plant-work for thousands of years; the mantle of brown loam, most excellent of soil stuffs, is cut through and carried away by corrosion and sapping, leaving in its stead the inferior soil stuff of the Lafayette formation. In such cases the destruction is irremediable by human craft—the fine loam once removed can never be restored. The area from which this loam is already gone is appalling, and the rate of loss is increasing in a geometric proportion.

"The formation of detritus and deposit in the river beds may also become the cause of dangerous floods in the larger streams, for the amount of rock material and soil which the rivers carry is one of the most potent factors in their water-flow.

"Since this detritus is deposited wherever the velocity of the water sinks below that necessary to carry it, forming sand banks and rubbish heaps which obstruct and change the direction of the run, it plays quite an important part in shaping the bed of the river, beside influencing the whole system of dependent brooks and rivers. The nature and shape of the detritus—whether fine sand or earth, smaller or

larger rock masses, stones, roundish, square, or flat—cause much difference; and this in turn depends upon many conditions, geological and climatical. (Page 160.)

Conclusion.

"(1) In consequence of deforestation evaporation from the soil is augmented and accelerated, resulting in unfavorable conditions of soil humidity and affecting unfavorably the size and continuity of springs. The influence of forest cover upon the flow of springs is due to this reduced evaporation as well as to the fact that by the protecting forest cover the soil is kept granular and allows more water to penetrate and percolate than would otherwise.

"(2) Snow is held longer in the forest and its melting is retarded, giving longer time for filtration into the ground, which is also being frozen to lesser depth is more apt to be open for subterranean drainage. Altogether forest conditions favor in general larger subterranean and less surface drainage, yet the moss or litter of the forest floor retains a large part of the precipitation and prevents its filtration to the soil, and thus may diminish the supply to springs. This is especially possible with small precipitations. Of copious rains and large amounts of snow water, quantities, greater or less, penetrate the soil, and according to its nature into lower strata and to springs. This drainage is facilitated not only by the numerous channels furnished by dead and living roots, but also by the influence of the forest cover in preserving the loose and porous structure of the soil.

"The forest, then, even if under unfavorable topographical and soil conditions (steep slopes and impermeable soils) it may not permit larger quantities of water to drain off underground and in springs, can yet influence their constancy and equable flow by preventing loss from evaporation.

"(3) The surface drainage is retarded by the uneven forest floor more than by any other kind of soil cover. Small precipitations are apt to be prevented from running off super-

ficially through absorption by the forest floor. In case of heavy rainfalls this mechanical retardation in connection with greater subterranean drainage may reduce the danger from freshets by preventing the rapid collection into runs. (Page 20.)

"(4) The well-kept forest floor, better than even the close sod of a meadow, prevents erosion and abrasion of the soil and the washing of soil and detritus into brooks and rivers.

"This erosion is especially detrimental to agricultural interests as well as water-flow in regions with this surface and impenetrable subsoils, and where rains are apt to be explosive in their occurrence, as in our western and southern country. The best soil of the farms is often washed into the rivers, and the water stages of the latter by the accumulations of this soil are influenced unfavorably.

* * * * As a regulator of water conditions the forest of the mountains is the important factor; and since this influence makes itself felt far distant from the location of the forest, the claim for attention of Government activity and for statesmanlike policy with reference to this factor of national welfare may be considered as well founded. Every civilized government must in time own or control the forest cover of the mountains in order to secure desirable water conditions." (Page 21.)

EXTRACTS FROM BULLETINS 62 AND 80, "WATER SUPPLY AND IRRIGATION PAPERS," BY U. S. GEOLOGICAL SURVEY.

Reports of the Results of Investigation of the Rainfall, Water Supply and Run-off in the Region of the Southern Appalachian Mountains.

PRECIPITATION IN THE SOUTHERN APPALACHIANS.

"The annual rainfall is copious, larger than anywhere else in the United States, except on the northwest coast, in Oregon

and Washington. As might be supposed it varies considerably in different parts of the high regions. The warm, moist winds from the east and south are deflected upward by the Blue Ridge, causing a cooling and constant precipitation. In this way the yearly rainfall is greatly increased on the slopes of those mountains." * * * * "Heavy rains occur at short intervals, which, with the steep slopes, cause rapid increase of the flow of streams for a day or for a few hours, when the rivers as rapidly fall to their normal stage." (Bulletin 62, pp. 23, 24 and 25.)

"Notwithstanding the inroads that have been made on these forests, nowhere in the United States is there an equal area of land covered with so great a variety of valuable timber. The walnuts, tulips (poplars) and oaks grow to almost incredible size. In many localities white pine occurs in large tracts, growing to great heights, and furnishing as fine lumber as any of the pine forests in the country." (Page 26.)

RELATION OF RAINFALL TO RUN-OFF.

"Whatever question there may be as to the influence of forests on rainfall, there is, in the opinion of the writer, none as to such influence on stream-flow. * * * * The removal of forests renders stream-flow less equal throughout the year and so cause floods and periods of dryness in rivers, seems to be beyond reasonable question, for the forest litter and root masses serve as storage reservoirs, tending to equalize the flow of streams." (Bulletin 80, page 55.)

"So far as present information goes, there is little or no relation between topography and run-off of streams. Deforestration appears to exercise a much more important influence."

"The extent of forestration appears to have considerable effect on the run-off of streams, catchments within dense forests showing larger run-off for the same rainfall than those which are deforested. As a tentative proposition it may be said that the removal of forests notably decreases stream-flow." (Page 84.)

EXTRACTS FROM BULLETIN U. S. DEPARTMENT OF AGRICULTURE, FARMERS' BULLETIN No. 20, "WASHED SOILS."

BEING A BULLETIN BY THE DEPARTMENTS OF CHEMISTRY, SOILS, FORESTRY (B. E. FERNOW, CHIEF OF DIVISION) AND BOTANY, FOR THE PRESERVATION OF THE SOIL, AND GIVING RESULTS OF INVESTIGATIONS SEEKING THE BEST MEANS TO PREVENT SOIL EROSION.

SOIL EROSION AND ITS PREVENTION.

"Forest ground is not subject to this erosive action of the rainfall because in a forest a large part of the rainfall never reaches the soil, as 20 or 30 per cent. is intercepted by the foliage and evaporated before it reaches the ground. The rainfall which reaches the surface is rapidly absorbed, as the soil is kept granular and loose and much more of the water is carried off by underdrainage rather than dy surface drainage.

"The forest covering protects the soil in the following ways:

"(1) By preventing rain from falling directly upon the soil, the foliage of the tree crowns intercepting and breaking its force, the water reaching the soil more gently from the leaves and along the branches and trunks of the trees.

"(2) By interposing a loose cover or mulch of litter formed by the fallen leaves and branches, which breaks the direct force of the raindrops and keeps the soil from being compacted or puddled by their blows.

"(3) "The deeply penetrating roots, and holes left from decayed stumps and roots of trees, assist in this underground drainage.

"(4) The litter with the stumps and projecting roots and

trunks of trees prevent the water from rapidly running over the ground and from gaining the momentum and force which is necessary in order to erode or gully the soil.

"(5) The forest cover prevents the drifting and the rapid thawing of snow, thereby insuring more even distribution of the waters and an increase in the time during which it can percolate or be absorbed into the soil.

"If the forest floor is not disturbed by fire, nor the litter trampled and compacted by cattle, it always reduces rapid surface drainage and largely, if not entirely, prevents erosive action.

Recovery of Washed Soils.

"Just as deforestation of hillsides and hilltops is the first cause for inducing erosive action, so is reforestation the most effective means in curing the evil. This has been demonstrated in France, where the Government and the farmers together have spent, during the last thirty years, over $40-000,000 and expect to expend three or four times that amount to reforest 1,000,000 acres of denuded mountain sides, the soil and debris from which has been carried by the torrents of water into the plain, covering over 8,000,000 acres of fertile ground and making it useless for agriculture. Sodding for pasture has been found mostly less effective and on the steeper slopes entirely ineffective.

"Wherever the ground in the hill country is not fit for agricultural use it should be set and kept in forest, not only to make it produce a timber crop, but also to prevent the erosion which finally becomes dangerous to the lower valley lands. Wherever agriculture is possible and profitable there should be such a distribution of forest, pasture and field as will secure the greatest immunity from erosive and torrential action of the waters. The forest should occupy all hilltops which, as a rule, have too thin a soil to allow profitable agricultural use; it should be kept growing on the steeper slopes where the water acquires the greatest momentum and the loosening of the soil by the plow furnishes a most favor-

able condition for erosive action; it should be placed on all rocky, uneven, agriculturally useless spots, because it will produce useful material even on such unfavorable situations, and, finally, forest belts should be maintained on slopes alternately with fields and pastures, running along the brow of the slope of widths and at distances proportionate to the character of the land and the angle of the slope—on the steeper slopes closer together, on the gentler sloper farther apart. These belts, acting as a barrier, to break the force of the water, will prevent an undue accumulation of surface waters and will protect to a considerable degree the lower fields from washing."

EXTRACTS FROM REPORT ON THE FORESTS AND FOREST CONDITIONS OF THE SOUTHERN APPALACHIAN MOUNTAIN REGION

MADE UNDER DIRECTION OF RESOLUTION BY CONGRESS JULY 30, 1901, APPROPRIATING $5,000.00 FOR SUCH INVESTIGATION, AND AFTER TWO YEARS OF INVESTIGATION BY THE BUREAU OF FORESTRY AND THE GEOLOGICAL SURVEY OF THE UNITED STATES.

DESCRIPTIVE.

"Southwest of the North Carolina line these bordering mountain chains lose both in elevation and regularity. In northern Georgia they break up into several minor ridges, diminishing in size as they extend southwestward, separating into widening, irregular valleys. * * * * The slopes of the ridges in north Georgia are still largely forest-covered, and along them are countless springs which, with notable consistency, feed the great rivers of that State and Alabama. The interior ridges are separated by high but deep and generally narrow valleys. Standing on any of the elevated mountains one may see stretching out in either of several directions an

endless succession of mountain ridges and mountain peaks. A remarkable succession of these ridges and peaks is seen from Grandfather mountain, North Carolina, looking southwest, as shown by panoramic view (Plate VI). Hundreds of such vistas, from as many peaks, open out before the traveller in this region. In every direction the splendid hardwood forests cover and protect the mountain slopes, and countless springs of water flow from them as the sources of great rivers. * * It is the forest covering of these mountain slopes, a covering that should never be removed, about which interest centers in the present investigation." (Pages 19, 20 and 21.)

INFLUENCES TENDING TO PRODUCE FOREST FIRES.

"The forests on the southeast slopes are usually less striking, both in the size of trees and density of growth, than those on the northwest, and they are usually more damaged by forest fires, because the slopes are steeper and usually kept drier by their more direct exposure to the sun. The neighboring forests on the northern and western slopes and in the westerly facing coves exhibit a greater variety of vegetation, a denser growth and finer specimens of individual trees." (Page 22.)

SOILS AND SOIL EROSION (PASTURE LANDS).

"In the cool climate of New England the native grasses form a dense sod which holds the hillside surfaces in place, so that even when forests have been removed there is little erosion. In the Southern Appalachians, however, neither the grass, the ligumes nor other foliage plants have been able to prevent this land erosion, and their only safeguard for the future is the protection of the forests. Hundreds of these steep mountain fields where selected grasses were sown have been observed during the past few years, and the results as a means indicating a means of permanent holding of these soils have been generally unsatisfactory. (See Plate XXII.) * * * * While the rains are removing the soils of the cleared mountain slopes, the floods are removing the soils of the valley farms. This is notably the case in the valleys where the bordering forests have been cleared to the largest extent. Year by year the channels of the streams are widened and encroach upon the adjacent farms, and, as the magnitude of the

floods increase, plow new channels across the fields. During the present year thousands of acres of the most productive valley lands in this mountain region have been damaged or destroyed by one or both of these processes." (See Plates XXIII and XXIV.) (Page 27.)

STREAMS AND FOREST INFLUENCES THEREON.

"In the mountains themselves the streams have their sources at elevations from 3,000 to 6,000 feet, but before reaching a level of 2,000 feet many of them have considerable proportions. They subsequently flow across mountain regions from 20 to 50 miles before breaking through the border ranges onto the surrounding lowlands at elevations from 1,000 to 1,200 feet. Along their courses stretches of smooth water are never long, and the descent is often accompanied by numerous rapids." (Page 29.)

"The perpetuation of streams and the maintenance of their regular flow, so as to prevent floods and maintain their water-powers, are among the prime objects of forest preservation in the Southern Appalachians. Nothing illustrates the need of this more fully than the fact that the neighboring streams, lying wholly in the Piedmont Plateau, when the forests have been cleared from 60 to 80 per cent. of the whole, floods are frequent and excessive. During the seasons of protracted drought some of the smaller streams almost disappear, and the use of water-power along their course is either abandoned or supplemented by steam-power. To-day the larger valuable water-powers of the South Atlantic region are mainly limited to the streams which have their sources among the Southern Appalachian mountains; and the waters of these streams show a striking uniformity of flow as compared with the streams within the adjacent lowland country where the forest clearing has been excessive. While the rainfall is somewhat greater in the mountain region, it is a question of the regularity rather than the volume of the flow, and this depends upon the water storage. The soil in the one region is as deep as in the other, and the slopes being gentler in the low country, other things being equal, water would soak into it more easily. In the mountain region itself the flow of the streams along which

proportionately large clearings have been made have become decidedly more irregular, and the flood damages have greatly exceeded those along other streams where the forests have not been disturbed. The problem resolves itself into one of forest cover for the soil." (Page 29.)

FOREST INFLUENCES UPON RAINFALL AND EXCESSIVE FLOODS.

"This is what one would expect who has been, during the rainy season, in the heart of a mountain region where the lands have not been cleared nor the forest fires destroyed the humus cover from the surface. The raindrops are battered to pieces and their force broken by the leaves and twigs of trees, and, when their spray reaches the ferns, the grass, the flowers below, instead of running away down the surface of the slope, it passes into the spongy humus and thence into the soil and crevices among the rocks below. As much of this supply as is not subsequently used by the growing plants, emerges from the storehouse weeks or months later in numberless springs. The rains must be extremely abundant and long protracted to produce any excessive increase in the flow of adjacent brooks."

"The rainfall in this Southern Appalachian region, as shown by appendix D, ranges from 60 inches for the year in Georgia to 71 inches in North Carolina. Heavy rainfalls in short periods are common. Even in an arid or semi-arid region, where the rainfall for the year may be only ten inches or less, the absence of forest cover results in a slow but sure removal of the soil from the mountain slopes. Much more in a region of heavy rainfall, like that of these southern mountains, when the forest cover has been destroyed, will the soil removal be certainly and rapidly accomplished." (Page 31.)

"The abundance of evidence shows the rainstorms among the primeval forests have been both frequent and heavy, but during the centuries these densely covered forest slopes have not lost their soils, nor the soils their fertility, nor has a furrow been washed. Trees of four centuries stand to-day in the very bottom of shallow ravines and minor depressions, eroded before forests covered the mountains. Had these forests been removed a few of the great rains that started these landslides

would have cleaned the mountain slopes of its recently formed soil, and would have swept the valleys below."

"These mountains will continue the home of storms. These heavy rains will continue to drench the slopes, if cleared of their forests, with increasing violence. Whether in the future these rains will be caught by ferns and grass and humus and received by a deep and porous soil, to be given out as needed to the vegetation above and perpetual springs below, or whether it shall rush down bare rocky slopes to fill gorges and carry destruction through the valleys beyond, depend upon whether or not these forests are preserved." (Page 32.)

CONCLUSIONS REACHED AFTER COMPREHENSIVE INVESTIGATION BY GOVERNMENT EXPERTS.

"Upon these mountains descends the heaviest rainfall of the United States, except that of the Northern Pacific coast. It is often of extreme violence, as much as eight inches having fallen in eleven hours and 31 inches in one month, 105 inches in a year."

"The soil once denuded of its forests and swept by torrential rains, rapidly loses first its humus, then its rich upper strata, and finally is washed in enormous volume into the streams to bury such of the fertile lowlands as are not eroded by the floods, to obstruct the rivers and fill up the harbors of the coast."

"These are the heaviest and most beautiful hardwood forests of the continent. In them species of the east and west, north and south mingle in growth of unparalleled richness and variety. They contain many species of the first commercial value and furnish important supplies which can not be obtained from any other region."

"The agricultural resources of the Southern agricultural region must be protected and preserved. To that end the preservation of the forests is an indispensable condition which will lead not to the reduction, but to the increased yield of agricultural products."

"The floods in these mountain-born streams, if the forest destruction continues, will increase in frequency and violence and in the extent of their damage, both within this region and

of washing of the mountain fields and roads, can not be estiin the bordering States. The extent of the damage, like those mated with perfect accuracy, but during the present year alone has approximated $10,000,000."

AFFIDAVIT OF W. S. YEATES, GEOLOGIST.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fulton.

Personally appeared W. S. Yeates, who, being duly sworn herein, on oath says:

Affiant is a geologist by profession and has been for the past twenty-four years, and is now and since May 15, 1893, has been State Geologist for the State of Georgia.

Affiant was a member of both commissions appointed by the State of Georgia to investigate the conditions arising from the copper and sulphur smoke and fumes generated by the Ducktown and Tennessee Copper Companies, to wit: the commissions of 1903 and 1905.

Affiant, both in 1903 and 1905, made a careful and thorough investigation of the territory of the State of Georgia in near proximity to the Ducktown copper works.

In the examination of 1903 it was disclosed that the copper and sulphur smoke and gases were doing great injury to the vegetation, fruit, and timber in the State of Georgia within a radius of a number of miles from the point on the Georgia line nearest to Ducktown, Tennessee.

The investigation of 1905 disclosed that the Tennessee Copper Company from whose works the major portion of the damage arises, abandoned its old works and site and erected its smelters and installed its furnace process several miles nearer —in fact, only a short distance from the Georgia line—had changed its process from open-heap roasting to reducing by furnace, which new process concentrated all smoke and gases within the narrow area of a chimney and gave them forth in a many-time stronger form than same were generated through the former method of roast-heaps.

In the immediate vicinity of the works the soil was not only wholly denuded of timber and vegetation, but by reason of the lack of such vegetation the rains had washed away the soil capable of producing vegetables, crops, or timber, leaving only decomposed rocks, incapable of sustaining vegetable life. Such a condition is the inevitable result of the continued destruction of all vegetable life, which in turn prevents retention by the earth of the moisture precipitated in such locality, occasioning, as a rule, the failure of springs and streams dependent thereon for their water supply.

Another result of this condition is the great injury to the highways within such territory. This is particularly true of a country of the character such as that around Ducktown, where it is largely of sloping character and sharp declivity. The heavy rains frequent in such mountainous countries run off as rapidly as precipitated upon the soil, and the fact that there is no vegetation to restrain or take up the moisture results in much washings of the hillsides, and the flooding of gulleys, creeks and branches, which in turn is practically injurious to the roads, they being neither corduroy nor macadam.

The chimney connected with said furnace was of sufficient height to ultimately slightly lessen the injury to the immediate locality—that is, within a few hundred yards of the works—but beyond this limited area the power to injury by said fumes was made many times greater.

Under the present process the territory subject to the hurtful effects of said fumes is much larger than that within the influence of the old process. It is difficult to say how many miles within the State of Georgia the fumes may have effect, but it is beyond peradventure true that the territory has greatly increased since the furnace process was installed by the Tennessee Copper Company.

The Tennessee Copper Company has three furnaces in operation and four in course of erection, which, when completed, will more than double the capacity of the works and also the injuries being occasioned thereby. The operation of the new furnaces will greatly increase the territory subject to the ruinous effects of said fumes and double the damages hereinbefore specified, both as being done and threatened, which damage, by reason of the greater strength and volume of the fumes, will be accomplished much more speedily than could now be accomplished.

W. S. YEATES.

Sworn to and subscribed before me, this —— day of November, 1905.

W. H. HARRISON,
Notary Public Fulton County, Georgia.

AFFIDAVIT OF WILLIAM A. WRIGHT, COMPTROLLER OF GEORGIA.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fulton County.

Personally appeared, William A. Wright, who, being duly sworn in the above-styled and numbered cause, on oath says:

Deponent is Comptroller-General of the State of Georgia, and has been for the past twenty-six years, and as such official has in his charge and custody, among other things, the official records of the State showing the improved lands and wild lands within the several counties of said State, which records of such improved and wild lands are compiled by deponent and in his office.

The wild lands in the counties bounded by the Tennessee line, and immediately adjacent to the Ducktown region, that is to say the counties of Murray, Fannin and Union, as shown by the records in deponent's office are as follows:

In the county of Fannin, in the year 1903, there were 70,181 acres of wild land. In the year 1904 there were 77,052 acres of wild land, an increase of 6,871 acres over the year previous. In 1905 there were 88,323 acres of wild land, an increase over 1904 of 11,271 acres, or 18,142 acres increase for the years 1904 and 1905.

In Murray county there were 57,601 acres of wild land in the year 1903, and 59,321 acres in 1904, or an increase of 1,720 acres. There were 68,325 acres of wild land in 1905, an increase of 9,004 acres, or a total of 10,724 acres increase for the years 1904 and 1905.

There were 49,552 acres of wild land in Union county in 1903; there were 68,077 acres in 1905, or an increase of 18,525 acres.

The total increase of wild lands within said three counties within the past two years amount to 47,391 acres, the greater portion of the increase being within the past year, there being an increase of 11,171 acres in Fannin, 9,004 in Murray, and the total amount specified by Union county was an increase over 1904, there being 49,552 acres of wild land in 1903, 41,403 in 1904, and 68,077 in 1905.

Towns county, which also adjoins the Tennessee line and the Ducktown region, has retrograded in the matter of improved lands, there being less in 1905 than in 1903.

The counties of the State of Georgia adjoining the counties of Murray, Fannin and Union (excluding Towns on the extreme east, which is also a border county) are Catoosa, Walker, Whitfield, Gordon, Gilmer, Pickens, Lumpkin and White; with the exception of Whitfield which has lost 533 acres of improved lands from the amount cultivated in 1903, and Lumpkin, which has lost 4,123 acres, each of said counties has increased in the amount of lands improved and decreased in amount of wild lands within said counties. The acreage of wild land in Catoosa county for 1903 was 2,549; Walker, 34,640; Gordon, 20,466; Gilmer, 45,632; Pickens, 11,265, and White, 38,164. In 1905 the amount of wild land in said counties was, respectively, Catoosa, 2,016; Walker, 32,303; Gordon, 19,933; Gilmer, 39,783; Pickens, 10,795, and White, 37,714.

In using the words "improved" and "wild lands," improved is meant to cover lands prepared for habitation or cultivation, and wild lands to denote lands wholly uncultivated and abandoned, or uncleared.

WM. A. WRIGHT.

Sworn to and subscribed before me, this 24th day of November, 1905.

LOGAN BLECKLEY,
Deputy Clerk, Supreme Court of Georgia.

AFFIDAVIT OF WM. A. WRIGHT, EMBRACING FISCAL YEAR 1905-1906.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fulton.

Personally appeared William A. Wright, who, being duly sworn, deposes and says:

Deponent is the Comptroller-General of the State of Georgia, and has been for the past twenty-seven years, and as such

official has charge and custody, among other things, of the records of such State showing the acreage of the improved and wild lands of said State owned or held by individuals or corporations, and listed for taxation, and also the amount of lands, if any, abandoned by the owners and stricken from the records of lands held by individuals or corporations as aforesaid within the State.

In each of the counties of Fannin, Gilmer, Murray, Union and Towns, as shown by said records, there has been a decrease of lands held by individuals or corporations, and an increase of lands abandoned during the past fiscal year, said increase of abandoned lands being greatest in the county of Fannin and least in the county of Towns. The following is a tabulation of the acreage abandoned:

Fannin county	39,330 acres.
Gilmer county	24,604 acres.
Murray county	13,165 acres.
Union county	9,129 acres.
Towns county	187 acres.
Total	86,415 acres.

The heaviest decrease in tax values in said section of the State was in Fannin and Gilmer counties.

Tax returns and land values generally throughout the State of Georgia have largely increased during the past year, such increase in property tax, the same being exclusive of railroads and other public utility corporations and franchises, amounted to $40,775,961 in excess of the returns for 1905, which amounted to $494,820,288.

WM. A. WRIGHT.

Sworn to and subscribed before me, this 26th day of September, 1906.

W. H. HARRISON,
Notary Public, Fulton county, Georgia.

DECLARATIONS OF DEFENDANTS AND COPPER STATISTICS, COMPILED BY U. S. GEOLOGICAL SURVEY.

Being Extracts from Bulletin "Copper" of the Mineral Resources of the United States for 1900-1-2-3-4 and 5, and Showing the Origin and Development of the Copper Industry in the Ducktown Region, Together with Profits Under the Different Roasting Methods.

"Production (of copper) in 1900 was practically confined to the Ducktown Sulphur, Copper & Iron Company." (Bulletin Copper, Mineral Resources of the U. S. 1900, page 160.)

"The extensive improvements in mining equipment and smelting plants begun in 1899 (the year of its permission to do business in Tennessee) by the Tennessee Copper Company, were practically completed in 1901. Smelting was begun in August, 1901, but it was not until May, 1902, that the plant attained its full capacity. * * * * The three roast yards have a capacity of over 100,000 tons of ore, and since May 1, 1901, when regular mining was begun, 145,826 tons of ore have been placed in them." (Bulletin Copper, Mineral Resources, 1901, pages 174-175.)

"During 1902 the work of modernizing the plant and equipment of the Tennessee Copper Company was brought to a close. * * * * The equipment on the Burra Burra mine was completed and 105,620 tons of sulphide ore were raised. During 1902 there were mined from the London mine, which produces the higher grade of ore, 81,741 tons of sulphide ore and 4,099 tons of silicious ore. The Polk county mine yielded 59,109 tons. Extensions of roast yards were made and are being continued. For the first five months only one blast furnace was in operation, smelting 69,674 tons of ore. Then the second furnace was put in commission, and for the last seven

months the two furnaces have smelted 151,520 tons, making a total of 221,194 tons. In December, however, the two furnaces handled 26,804 tons of ore. Contracts have been let for a third furnace." * * * *

"The Ducktown Sulphur and Copper Company, the second producers in Tennessee, showed an increased output in 1902 of nearly 500,000 pounds over 1901." (Bulletin Copper, Mineral Resources of U. S., 1902, pp. 180-181.)

"THE COPPER MARKET IN 1903."

"The year opened with copper fairly active on both sides of the Atlantic, and the market, which was 12 cents for lake copper and 11¾ cents for electrolytic copper, gradually hardened until at the end of January 12½ and 12¾ cents were paid for lake and 12⅜ cents for electrolytic copper. The metal developed further strength in February, closing at 13⅜ cents for lake and 13¼ for electrolytic. During March the demand continued unabated, the price being carried up to 13½ cents to 14⅞ cents for lake in the last few days. The movement culminated in the latter part of April with 15 and 15⅛ cents for lake and 14¾ cents for electrolytic." (Bulletin Copper, Mineral Resources of the U. S., 1903, pp. 234-235.)

"The Tennessee Copper Company is forging ahead, having in 1903 produced 10,690,389 pounds of fine copper, as compared with 8,103,534 pounds in 1902. A third furnace and a new blowing engine were in course of construction, which according to the estimate of Mr. J. Parke Channing, the president, will carry the output to about 14,000,000 pounds. It has been determined to increase the smelting capacity from 300,000 tons per annum to 600,000 tons by enlarging the smelter from three to six furnaces. The production of ore could be made by operating the mines double shift. The new construction will extend over eighteen months, so that the enlarged output will not come into play until well into 1905. The company is carrying out the plan of smelting unroasted or green ore, which will not only reduce the operating costs, but will increase the extraction, and will make a net saving of not less than one cent per pound on the copper."

"Mr. Randolph Adams, the general manager, in his annual

report, states that there were raised and shipped from the Polk county mine 75,153 tons, from the Burra Burra 120,046 tons, and from the London 92,266 tons, a total of 287,465 tons, the ore reserves standing at the end of the year at 2,775,000 tons, an increase of 725,000 tons during the year. The charge smelted during the year consisted of 248,067 tons of roasted ore, the equivalent of 275,630 tons of green ore; 8,359 tons of silicious ore, 213 tons of green ore, 25,336 tons of converter slag, 2,282 tons of blast-furnace by-products, 27,232 tons of quartz flux, and 5,977 tons of matter resmelted—a total of 317,466 tons, which required the consumption of 39,606 tons of coke. The production amounted to 1,922,772 pounds of fine copper in Bessemer pig, 8,736,117 pounds of refined copper, and 31,500 pounds suspended in refining, the yield calculated on the green ore being 37,615 pounds per ton of ore."

"The detailed operating costs, free on board Tennessee, are as follows:

Item.	Cost.	
	Per ton of ore	Per pound of copper.
		Cents.
Mine development	$0 1343	0 36
Mining, hoisting, etc	.6696	1.78
Crushing and sorting	.0761	.20
Railway	.1454	.38
Roasting	.3300	88
Credit to ore in process in roast yards	.0442	.12
Blast furnace	1.1437	3 04
Engineering and laboratory	.0324	.09
General	.1443	38
Converting	.2692	.72
Cost of fine copper in pig	2 9892	7 95
Refining	.0971	25
Cost of fine copper as ingot	3 0863	8 20

NOTE.—The price of copper for 1905 exceeds 19c.

"The treasurer, Mr. J. H. Susmann, reports that sales were made of 3,023,544 pounds of pig copper, at an average selling price of 12.17 cents, the approximate cost being 7.95 cents at works, 0.66 cent for freights, insurance and selling expenses, and 0.30 cent for taxes, legal, and administrative expenses, a total of 8.91 cents. The sales of refined copper were 9,655,545 pounds, at an average price of 12.98 cents, the approximate

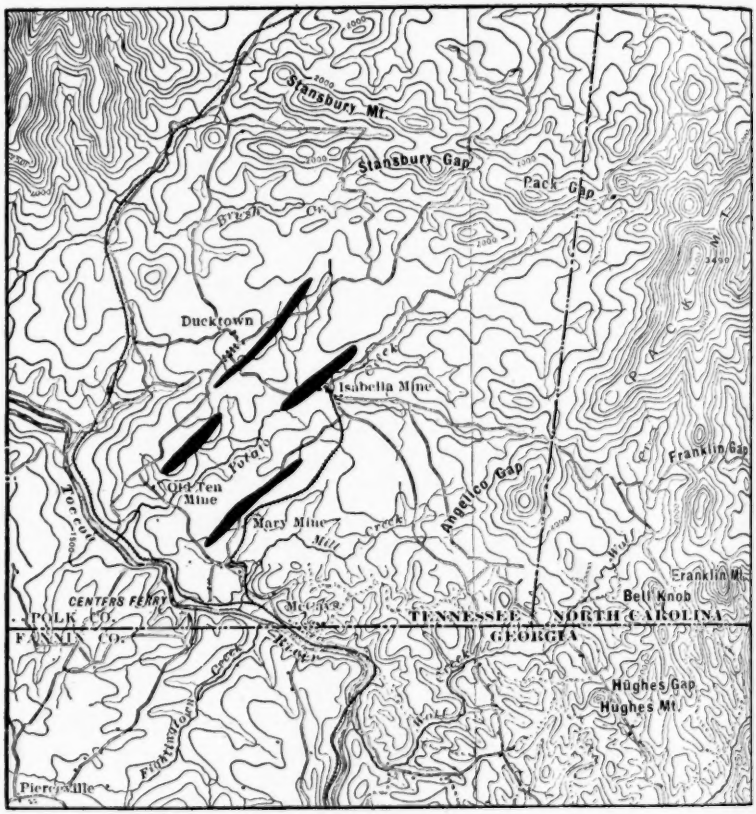
costs being 8.20 cents at works and 0.96 cent as above for other costs, a total of 9.16 cents. There were inventoried at the beginning of the year 2,450,077 pounds of copper, and at the end the stock at works and on dock was 912,354 pounds.

The profit and loss account shows profits aggregating $500,-419.52, which includes $74,326.57 for royalties on iron ore mined, tolls on converting outside copper matte, and on merchandise, while the expenditures include $7,500 to bond-issue account, $25,000 interest on $500,000 bonds, and $50,354.52 for depreciation. The sum of $61,785.74 was expended on construction. Two dividends aggregating $437,500 were paid. The capital stock is $5,000,000, of which $625,000 is in the treasury."

"The second producer in Tennessee is the Ducktown Sulphur, Copper and Iron Company (Limited), with a production of about 3,000,000 pounds." (Bulletin Copper, Mineral Resources of U. S. for 1904, p. 217.)

"The Tennessee Copper Company produced in 1905 7,977,-982 pounds of copper, the enlarged smelting plant having been practically completed toward the close of the year. The company is now in a position to handle 500,000 tons of ore per annum, equivalent to a production of 18,000,000 pounds of pig copper, which it is expected will cost about 7.5 cents per pound free on board New York. During the year 1905 the cost of producing and marketing was 9.28 cents per pound. The profit for the year was $452,106, after charging $62,042 for depreciation. Out of surplus and profits, $584,103 was expended for new construction, about $500,000 of this amount being devoted to the smelting plant. The ore reserves during the year were increased to 4,000,000 tons." (Bulletin Copper, page 17, Mineral Resources of U. S. for 1905.)

MAP OF DUCKTOWN REGION.



REDUCED REPRODUCTION OF ELLIJAY AND MURPHY QUADRANGLES OF U. S. GEOLOGICAL SURVEY, BY J. F. KEMP, FOR THE AMERICAN INSTITUTES OF MINING ENGINEERS (VOL. XXXI), SHOWING LOCATION OF DEFENDANTS' MINES, ADJOINING WHICH THE ROAST YARDS WERE FORMERLY LOCATED.

CONDENSATION OF SULPHUR DIOXID INTO SULPHURIC ACID, AND COMMERCIAL FEASIBILITY THEREOF.

EXTRACTS FROM THE VOLUME "PYRITE SMELTING," CONTAINING DECLARATIONS OF THE DEFENDANTS AS TO PROFITS UNDER NEW PROCESS AND ABILITY TO CONDENSE GAS INTO SULPHURIC ACID AND RELIEVE INJURIES.

DECLARATION OF PRES. CHANNING, OF THE TENNESSEE CO.

"Under normal conditions a furnace (of The Tennessee Copper Company) will treat 375 tons of sulphide copper per day, and, at that rate, should be in action about twenty-seven days per month; that is, each furnace may be expected to be down for one week every two months, thus giving the average ore per furnace per month about 10,000 tons. I believe in time we shall be able to exceed this, as we have frequently put through over 400 tons in 24 hours, not including the quartz flux.

"It is still a little too early to determine exactly what the commercial saving will be on pyrite smelting. We have certainly eliminated the roast yard expense, which amounts to 40 cents per ton. I believe that the blast-furnace expense per ton of green ore will be about the same; and I am of the opinion that we will save at least four pounds more of copper than we did in the old method.

"In addition to this, much to our gratification, we found that the gases from the furnace are so rich in SO_2 that we can make acid from them by the chamber process. This will give us a by-product, which will be of great value in the South for the purpose of making fertilizers, and not only will it operate toward reducing the volume of gases to the atmosphere, but will prove a source of considerable revenue. We are, however, providing the plant with a new stack 325 feet high (internal diameter twenty feet) so as to give us perfect draught,

which is desirable in pyrite smelting, as without proper draught, and with gases leaking from the doors, the feed floor is by no means a comfortable place." (Pyrite Smelting, page 214.)

DECLARATIONS BY MR. FREELAND, GENERAL MANAGER OF THE DUCKTOWN CO., AS TO NEW METHOD.

"*Comparative Economy of the Process.*—The plant and equipment of the Ducktown Sulphur, Copper & Iron Company is not of modern design, yet under its conditions, a reduction of 3.018 cents in the cost per pound of copper is effected by raw sulphide smelting. The writer is of the opinion that an up-to-date plant should make an even better showing, and it is to be hoped that our immediate neighbors, The Tennessee Copper Company, with their admirable plant, will confirm the opinion in the near future, as that company is now making preparation to adopt the same method." (Page 129.)

SUMMARY OF CONTRIBUTIONS.

The contributions from the officers of the two defendants and other experts interested, are reviewed as a whole, and the following summary is made by the "Engineering and Mining Journal" and reprinted in "Pyrite Smelting":

"If the smelter is so situated that the sulphur dioxid derived from roasting of ores can be used for the manufacture of acid, it becomes a question whether the profit derived from making acid is greater than the gain that will arise by diminishing the coke. * * * * (Page 188.) The cost of producing metallic copper from the heavy pyrite ores of the Ducktown Sulphur, Copper & Iron Company, Ltd., is 3.018 cents per pound less than by the former method of roasting and smelting with coke. This statement is given on authority of the smelter superintendent, W. H. Freeland." (Page 256.)

SULPHURIC ACID, ITS MANUFACTURE AND USES. DESCRIPTION AND DEFINITION OF SULPHUR DIOXID, THE USES OF SULPHURIC ACID, AND STATISTICS OF ITS USE IN THE MANUFACTURE OF OTHER ACIDS, EXPLOSIVES AND FERTILIZER.

SULPHUR DIOXID.

DEFINITION.

"A colorless gas having a suffocating, disagreeable odor. * * It is very soluble in water, forming sulphuric acid * * when inhaled in its pure state it is poisonous; when inhaled with air it produces coughing and irritation of the air passages." (Simon, Manual on Chemistry, page 101.)

The strength of sulphur dioxid to be obtained from incinerating the highest grade imported sulphur pyrites, for the purpose of manufacturing sulphuric acid is declared by Lunge, in Vol. I, page 321, in authoritative work on Acid and Alkalies to be:

"8.59% by volume in burning pyrites." "This must be looked upon as maximum figures, which in practice can only be approached, but hardly ever reached, and which never ought to be exceeded" * * "In many factories the SO_2 is much below 8.59%, sometimes not above 6% of the volume of the gas."

SULPHURIC ACID.

USES OF SULPHURIC ACID.

"Uses of Sulphuric Acid.—The uses of sulphuric acid in the arts are extremely varied and of the highest importance. It forms the basis of manufacture of nearly all other acids and salts. Nitric, hydrocloric, acetic, picric, phosphoric, oxalic,

tartaric, citric and stearic acids, chemical manures and fertilizers are all prepared by the agency of sulphuric acid. It is also used in the metallurgy of copper, cobalt, nickel, silver, platinum, as well as in the preparation of sheet iron and wire for galvanizing and tinning; in the preparation of phosphorus, bromide, iodine potassium bycromate, ordinary ether and various ethers (q. v.), starch, glucose, sugar and various fermented drinks; in the manufacture of various parchment papers, cellulose, celluloid, high explosives, nitroglycerine, nitrobenzene, guncotton, smokeless powders, pyroxilene, etc.; in dyeing, calico printing and tanning; in refining mineral oils, tallow, benzine and paraffin; in the preparation of various sulphates, as those of ammonium, potassium, barium, magnesium, aluminum, iron, zinc, quinidine, quinine, strychnine, and others too numerous to mention and many of which have an extensive application in therapeutics."—(*New International Encyclopædia, Vol. XVI., pp.* 225-6.)

NOTE.—Over all the above uses, but two illustrations of the amounts required in the particular uses stated are available, viz.: Fertilizer and high explosives. Probably an equal amount is used in refining oils, sugar and glucose, but no record of the amount so used is available. The Census Bureau also publishes a statement of the sulphuric acid used in the manufacture of some of the acids mentioned in the year 1900. This use of acid in this connection has vastly increased.

SULPHURIC ACID NECESSARY FOR THE MANUFACTURE OF OTHER ACIDS.

COMPILATION OF DATA FOR 1901, BEING THE LAST REPORT IN THIS CONNECTION.

1. *Historical.*—The production of sulphuric acid is a matter of the greatest importance, as it is not only the foundation of the inorganic heavy-chemical industry and is used for many other purposes, but also has lately become a most important material in the organic dye-stuff industry, especially in the production of alizarine colors and of synthetic indigo. The contact process is causing a complete revolution in the methods of manufacture of sulphuric acid; hence on account of its historical development and present status should be of great interest. The historical development of this process may be divided into four periods.

First period: Phillips, in 1831, discovered the catalytic action of platinum in hastening the union of SO_2 and O to form SO_3.

Second period: Wohler and Mahla, in 1852, showed that many other substances besides platinum possess catalytic properties, and explained the character and course of the reaction.

Third period: Winkler used definite gas mixtures for the production of sulphuric anhydride, as it was then considered that only in this way could good quantitative yields be obtained.

Fourth period, the present one, is noted by the successful use of the furnace gases directly."

"ACIDS, OTHER THAN SULPHURIC, BY KIND, QUANTITY AND VALUE: 1900.

KIND.	Number of Establishments.	Quantity.	Value.
		Pounds.	
Nitric	34	30,961,501	$1,454,909
Mixed	9	42,368,819	1,111,258
Muriatic	31	116,848,001	1,020,574
Boric	3	2,384,935	198,212
Acetic	12	26,660,565	426,892
Lactic and citric	3	3,886,382	335,297
Tartaric	4	2,677,004	781,603
Tannic	5	282,515	135,662
Gallic	3	141 291	20,275

"It is to be understood that the quantities and values given in this table represent only the acids sold as such, or produced for sale in the establishments, for the actual production, in many cases, is much greater than that given above. Thus the first item on the list, nitric acid, is used in the making of the 'mixed acids,' which is the second item on the list. This mixed acid is not only manufactured in the acid factories and sold to explosive works, to manufacturers of pyroxylin for use in the making of plastics and of varnishes, and to other manufacturers, but many of the larger works now make the nitric acid which they consume in this manner. There is thus made and consumed more nitric acid than is sold as such, the production as reported amounting to 62,473,295 pounds, which is prob-

ably less than the total amount actually made for use and sale. Theoretically, 74.13 parts of nitric acid monohydrate can be made from 100 parts of pure sodium nitrate, but in practice, only 95 per cent. of this is condensed, while 5 per cent. passes to the towers. From this, then, there would be required 43,841 tons of nitrate of soda and 47,348 tons of sulphuric acid to produce the above given quantity of nitric acid, and there would result as a by-product 52,609 tons of niter cake.

"By 'mixed acids' is meant mixtures of nitric and sulphuric acids which are employed in 'nitrating' organic substances such as glycerin, cellulose, and carbolic acid. The commercial use of such a mixture began with the manufacture of nitrobenzene and picric acid, but it received its greatest impetus about 1862, when the commerical manufacture of nitroglycerin began. Originally the users of this mixed acid purchased the sulphuric and nitric acids and mixed them in the desired proportions for use, the acids being transported in separate carboys of glass.

"Hydrochloric acid, commercially known as muriatic acid, is made by acting on common salt with sulphuric acid. The ordinary muriatic acid of commerce is an aqueous solution containing about 40 per cent. by weight of dry hydrogen chloride. For the amount of hydrochloric acid reported on this standard there would be required for its production 37,000 tons of common salt and 39,000 tons of sulphuric acid of 60° Beaumé, and there would be obtained in addition to the muriatic acid 47,000 tons of salt cake which consist of sodium sulphate together with some decomposed common salt and an excess of sulphuric acid."—(*U. S. Census Bulletin, 210, pp.* 11, 15 *and* 16, *June* 25, 1902.)

SULPHURIC ACID IN EXPLOSIVES.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF THE CENSUS.
WASHINGTON, June 18, 1906.

CENSUS OF MANUFACTURES.

EXPLOSIVES.

(Preliminary Summary.)

The Director of the Census announced to-day the result of the tabulation of the statistics of explosives for the calendar year 1904, forming a part of the Census of Manufactures of 1905, taken in conformity with the Act of Congress of March 6, 1902. The figures indicate that there has been a very large increase in the manufacture of explosives in the United States, as compared with the statistics of 1900, which covered the fiscal year ending May 31st.

Comparative figures for 1905 and 1900 are shown in the following summary:

	1905	1900	Per Cent. of Increase.
Number of establishments.	124	97	27.8
Capital	$41,236,945	$19,465,846	111.8
Salaried officials, clerks, etc.			
Number	1,289	768	67.8
Salaries	$ 1,797,050	$ 914,477	96.5
Wage-earners:			
Average number	5,800	4,502	28.8
Wages	$ 3,308,774	$ 2,383,756	38.8
Miscellaneous expenses	1,657,655	1,096,604	51.2
Materials used:			
Total cost	$17,203,667	$10,334,974	66.5
Nitrate soda:			
Tons	133,034	88,524	
Cost	$ 5,608,557	$ 2,902,866	

	1905	1900	Per Cent. of Increase.
Mixed acid:			
Pounds	105,552,404	66,906,146	
Cost	$ 3,093,429	$ 1,505,754	
Glycerine:			
Pounds	24,561,527	16,983,918	
Cost	$ 3,129,665	$ 2,016,557	
Sulphur:			
Tons	19,574	12,742	
Cost	$ 507,469	$ 317,383	
Sulphuric acid:			
Tons	18,298	7,864	
Cost	$ 247,301	$ 130,699	
Nitric acid:			
Pounds	2,699,500	467,587	
Cost	$ 122,047	$ 17,171	
Alcohol:			
Gallons	850,560	136,520	
Cost	$ 231,353	$ 57,937	
Aqua ammonia:			
Pounds	997,830	649,703	
Cost	$ 46,916	$ 11,303	
All other materials	$ 4,216,930	$ 3,375,304	
Products:			
Total value*	$29,602,884	$17,125,418	72.9
Gunpowder:			
Pounds	215,820,144	123,314,103	
Value	$ 8,919,460	$ 5,310,351	
Nitro-glycerine:			
Pounds	7,935,936	3,618,692	
Value	$ 1,620,117	$ 783,299	
Dynamite:			
Pounds	130,920,829	85,846,456	
Value	$12,900,193	$ 8,247,223	

* Exclusive of 917,565 pounds of smokeless powder, valued at $452,604, and other products valued at $122,228, manufactured by two governmental establishments: also exclusive of 88,667 pounds of guncotton, valued at $59,000; 82,300 pounds of smokeless powder, valued at $15,800, and 16,000 pounds of fulminating mercury, valued at $40,400, made by establishments engaged primarily in the manufacture of other products.

	1905	1900	Per Cent. of Increase.
Guncotton or pyroxylin:			
Pounds	293,970	228,342	
Value	$ 167,322	$ 103,702	
Smokeless powder:			
Pounds	6,009,855	2,973,126	
Value	$ 3,938,073	$ 1,655,948	
All other products	$ 2,057,719	$ 1,024,895	

SULPHURIC ACID CONTENTS OF FERTILIZER.

AFFIDAVIT OF R. F. SAMS.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fulton.

Upon due notice to appear before United States Commissioner to take testimony in this behalf, personally appeared

R. F. Sams, who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is engaged in the manufacture of commercial fertilizers and has been for the past twenty-five years and is now division manager of the manufacturing department Virginia-Carolina Chemical Company.

There are three distinct classes of fertilizers manufactured by said corporation, the same being known as acid phosphates, alkaline or potash, and acid and ammoniated fertilizers. Sulphuric acid enters largely into the composition of each of said fertilizers, the percentage of the acid, however, being different in each class.

The basis of all of said fertilizers is sulphuric acid and phosphate rock. Acid phosphate is composed of sulphuric acid and phosphate rock only, the amount of sulphuric acid used being dependent upon the grade and purity of the rock and its lime contents. In each case when the acid and rock are mixed there is a percentage of waste occasioned by the chemical action of the mixture and the evaporation incident to the heat and steam generated thereby. The percentage of loss in gross weight is approximately 10 per cent., the same being about equally divided between the shrinkage in rock and evaporation of the sulphuric acid. For example, it often requires 1,050 pounds of rock and 1,200 pounds of acid to make a two-thousand-pound ton of acid phosphate.

As heretofore stated, in the manufacture of acid phosphate the percentage of acid required depends upon the phosphate rock used. Usually somewhat more acid is required than rock, the amount of acid necessary to produce a two-thousand-pound ton of acid phosphate ranging from 1,000 to 1,200 pounds.

Of the two remaining classes of fertilizer acid phosphate forms the base, which acid phosphate is mixed with ammoniates or potash and the other ingredients necessary to complete the fertilizer.

In the average alkaline or potash and acid fertilizer about 800 pounds of acid, 800 pounds of phosphate rock and 560 pounds of other ingredients are used to make a short (two-thousand-pound) ton of fertilizer.

In the ammoniated fertilizers slightly less acid and rock are

used, there averaging about 750 pounds of acid, 750 pounds of rock and 650 pounds of other ingredients to make a short ton of such fertilizer.

In each case, as will be seen, the proportion of sulphuric acid to the phosphate rock is equal or in excess. The rock is not available in the manufacture of fertilizer without sulphuric acid. Probably all of the phosphate rock produced in America is used in the manufacture of fertilizers.

The relative per cent. of the sales of each of said three classes of fertilizers to the gross sales of fertilizers by deponent's company is as follows: Ammoniated 50 per cent., alkaline or potash and acid 20 per cent., and acid phosphate 30 per cent.

In order to obtain the sulphuric acid necessary for the conduct of said fertilizer business sulphur pyrites are purchased and shipped to said plant from Spain and elsewhere at an average approximate cost of $8.50 per ton. One ton of the highest grade pyrites, averaging 50 per cent. sulphur, produces nearly one ton of sulphur dioxid.

To obtain sulphuric acid the pyrites are incinerated and sulphur dioxid produced, which in turn is precipitated and converted. Practically the entire sulphur dioxid is used and converted and, notwithstanding the great strength of the gas generated, it being the manufacturer's object to get the highest per cent. sulphur ore in order to make the strongest possible gas, practically no damage whatever is sustained from the fumes finally liberated as all sulphur dioxid has been exhausted prior to such liberation.

R. F. Sams.

Sworn to and subscribed before me this — day of September, 1906.

B. T. Schwabb,
Notary Public, Fulton county, Georgia.

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AFFIDAVIT OF D. B. OSBORNE.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fulton.

After due notice to appear before United States Commissioner to take testimony in their behalf, personally appeared D. B. Osborne, who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is engaged in the manufacture of commercial fertilizers and has been for the past twenty-two years, and is now manager of the Armour Fertilizer Works, Atlanta, Ga.

There are three distinct classes of fertilizers manufactured by said corporation, the same being known as acid phosphates, alkaline or potash and acid and ammoniated fertilizers. Sulphuric acid enters largely into the composition of each of said fertilizers, the percentage of the acid, however, being different in each class.

The basis of all of said fertilizers is sulphuric acid and phosphate rock. Acid phosphate is composed of sulphuric acid and

phosphate rock only, the amount of sulphuric acid used being dependent upon the grade and purity of the rock and its lime contents. In each case when the acid and rock are mixed there is a percentage of waste occasioned by the chemical action of the mixture and the evaporation incident to the heat and steam generated thereby. The percentage of loss in gross weight is approximately 10 per cent., the same being about equally divided between the shrinkage in rock and evaporation of the sulphuric acid. For example, it often requires 1,100 pounds of rock and 1,150 pounds of acid to make a two-thousand-pound ton of acid phosphate.

As heretofore stated, in the manufacture of acid phosphate, the percentage of acid required depends upon the phosphate rock used. Usually somewhat more acid is required than rock, the amount of acid necessary to produce a two-thousand-pound ton of acid phosphate ranging from 1,000 to 1,200 pounds.

Of the two remaining classes of fertilizer acid phosphate forms the base, which acid phosphate is mixed with ammoniates or potash and the other ingredients necessary to complete the fertilizer.

In the average alkaline or potash and acid fertilizer about 750 pounds of acid, 725 pounds of phosphate rock and 675 pounds of other ingredients are used to make a short (two-thousand-pound) ton of fertilizer.

In the ammoniated fertilizers slightly less acid and rock are used, there averaging about 650 pounds of acid, 625 pounds of rock, and 850 pounds of other ingredients to make a snort ton of such fertilizer.

In each case, as will be seen, the proportion of sulphuric acid to the phosphate rock is equal or in excess. The rock is not available in the manufacture of fertilizer without sulphuric acid. Probably in excess of 95 per cent. of the phosphate rock produced is used in the manufacture of fertilizers.

The relative per cent. of the sales of each of said three classes of fertilizers to the gross sales of fertilizers by deponent's company is as follows: Ammoniated 65 per cent., alkaline or potash and acid 20 per cent., and acid phosphate 15 per cent.

In order to obtain the sulphuric acid necessary for the con-

duct of said fertilizer business sulphur pyrites are purchased and shipped to said plant from Spain and elsewhere at an average approximate cost of $9.00 per ton. One ton of the highest grade pyrites, averaging 50 per cent. sulphur, produces nearly one ton of sulphur dioxid.

To obtain sulphuric acid the pyrites are incinerated and sulphur dioxid produced, which in turn is precipitated and converted. Practically the entire sulphur dioxid is used and converted and, notwithstanding the great strength of the gas generated, it being the manufacturer's object to get the highest per cent. sulphur ore in order to make the strongest possible gas, practically no damage whatever is sustained from the fumes finally liberated, as all sulphur dioxid has been exhausted prior to such liberation.

D. B. OSBORNE.

Sworn to and subscribed before me this 21st day of September, 1906.

L. B. JACKSON,
Notary Public, Fulton county, Georgia.

AFFIDAVIT OF H. A. ROGERS.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,

Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),

Defendants.

In Equity.

STATE OF GEORGIA—County of Fulton.

Personally appeared H. A. Rogers, who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is engaged in the manufacture of commercial fertilizers and has been for the past seven years, and is now manager of Swift Fertilizer Works, Atlanta, Ga.

There are three distinct classes of fertilizers manufactured by said corporation, the same being known as acid phosphates, alkaline or potash and acid and ammoniated fertilizers. Sulphuric acid enters largely into the composition of each of said fertilizers, the percentage of the acid, however, being different in each class.

The basis of all of said fertilizers is sulphuric acid and phosphate rock. Acid phosphate is composed of sulphuric acid and phosphate rock only, the amount of sulphuric acid used being

dependent upon the grade and purity of the rock and its lime contents. In each case when the acid and rock are mixed there is a percentage of waste occasioned by the chemical action of the mixture and the evaporation incident to the heat and steam generated thereby. The percentage of loss in gross weight is approximately 10 per cent., the same being about equally divided between the shrinkage in rock and evaporation of the sulphuric acid. For example, it often requires 1,100 pounds of rock and 1,150 pounds of acid to make a two-thousand-pound ton of acid phosphate.

As heretofore stated, in the manufacture of acid phosphate the percentage of acid required depends upon the phosphate rock used. Usually somewhat more acid is required than rock, the amount of acid necessary to produce a two-thousand-pound ton of acid phosphate ranging from 1,050 to 1,200 pounds.

Of the two remaining classes of fertilizer acid phosphate forms the base, which acid phosphate is mixed with ammoniates or potash and the other ingredients necessary to complete the fertilizer.

In the average alkaline or potash and acid fertilizer about 750 pounds of acid, 750 pounds of phosphate rock and 650 pounds of other ingredients are used to make a short (two-thousand-pound) ton of fertilizer.

In the ammoniated fertilizers slightly less acid and rock are used, there averaging about 650 pounds of acid, 625 pounds of rock, and 850 pounds of other ingredients to make a short ton of such fertilizer.

In each case, as will be seen, the proportion of sulphuric acid to the phosphate rock is equal or in excess. The rock is not available in the manufacture of fertilizer without sulphuric acid. Probably 95 per cent of the phosphate rock produced in America is used in the manufacture of fertilizers.

The relative per cent. of the sales of each of said three classes of fertilizers to the gross sales of fertilizers by deponent's company is as follows: Ammoniated 65 per cent., alkaline or potash and acid 20 per cent., and acid phosphate 15 per cent.

In order to obtain the sulphuric acid necessary for the conduct of said fertilizer business sulphur pyrites are purchased and shipped to said plant from Spain and elsewhere at an aver-

age approximate cost of $8.60 per ton. One ton of the highest grade pyrites, 50 per cent. sulphur, produces nearly one ton of sulphur dioxid.

To obtain sulphuric acid the pyrites are incinerated and sulphur dioxid produced, which in turn is precipitated and converted. Practically the entire sulphur dioxid is used and converted and, notwithstanding the great strength of the gas generated, it being the manufacturer's object to get the highest per cent. sulphur ore in order to make the strongest possible gas, practically no damage whatever is sustained from the fumes finally liberated, as all sulphur dioxid has been exhausted prior to such liberation.

H. A. ROGERS.

Sworn to and subscribed before me this —— day of September, 1906.

W. W. TRACY.
Notary Public, Fulton county, Georgia.

EXTRACTS FROM BULLETIN, "PRODUCTION OF PHOSPHATE ROCK," 1905 (PAGE 7), FROM MINERAL RESOURCES OF THE U. S., 1905.

PRODUCTION OF PHOSPHATE ROCK IN THE UNITED STATES, A COMMODITY WHOLLY WITHOUT USE OR VALUE EXCEPT IN CONJUNCTION WITH EQUAL OR GREATER PORTIONS OF SULPHURIC ACID.

USES.

Phosphate rock is used altogether in the manufacture of artificial fertilizers and chemicals containing phosphoric acid.

PRODUCTION.

The following table gives the production of phosphate rock

in the United States from 1902 to 1905, inclusive, based on the marketed product, classified by kinds or grades:

"*Production of phosphate rock in the United States,* 1902-1905, *based on the quantity marketed.*

QUOTING ONLY THAT OF STATES ADJACENT TO TENNESSEE.

LONG TONS.

STATE.	1902.		1903.		1904.		1905.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Florida:								
Hard rock	429,384	$1,743,694	412,876	$1,988,243	531,087	$2,672,184	577,672	$2,993,732
Land pebble	350,991	810,792	390,882	885,425	460,834	1,102,993	528,587	1,045,113
River pebble	5,055	9,711	56,578	113,156	81,030	199,127	87,847	213,000
Total	785,430	$2,564,197	860,336	$2,986,824	1,072,951	$3,974,304	1,194,106	$4,251,845
S. Carolina:								
Land rock	245,243	$753,220	233,540	$721,303	258,806	$830,117	234,676	$774,447
River rock	68,122	166,505	25,000	62,500	12,000	31,200	35,549	103,722
Total	313,365	$919,725	258,540	$783,803	270,806	$861,317	270,225	$878,169
Tennessee:								
Brown rock							438,139	$1,509,743
Blue rock							44,031	121,486
White rock							689	2,155
Total	390,799	$1,206,647	460,530	$1,543,567	530,571	$1,745,054	482,859	$1,633,389

FERTILIZER STATISTICS.

SALES OF FERTILIZER IN SIX STATES ADJACENT TO TENNESSEE AS COMPILED BY "THE AMERICAN FERTILIZER" OF MAY, 1906, THE OFFICIAL ORGAN OF THE FERTILIZER MANUFACTURERS' ASSOCIATION, EMBRACING FISCAL YEARS OF 1903-4 AND 1904-5.

"ESTIMATES AND COMPARISONS IN SIX STATES FOR TWO YEARS.

"The indications are that this year will witness the largest sale of commercial fertilizer ever known in Tennessee. The record of sales of tags for the first quarter of the year show an increase over the corresponding period of last year, and so far

this quarter there has been an increase, according to the Nashville *American*. For 1905 there was an increase of sales of commercial fertilizer over the previous year of 3,000 tons, and it is not improbable that the increase this year will equal that of last year.

"Notwithstanding these facts, however, the sales of commercial fertilizer in Tennessee are wholly insignificant as compared with the sales in other Southern States. These figures speak eloquently of the natural fertility and productiveness of the soils of this State. Although the crops of Tennessee are probably more diversified and a greater variety of products are grown than in any other Southern State, Tennessee farmers use only about one-third of the fertilizers used in Florida, which has a population of about one-third that of this State. In Georgia, which is but little larger in area and population than this State, the sales of fertilizers were nearly twenty times as great as those in Tennessee.

"At $20 per ton, which is about the average price which fertilizers cost the farmers of the South, the agricultural interests of Georgia last year spent over $14,000,000 for commercial fertilizers, while the farmers of Tennessee spent less than $800,000 for the same purpose.

"Next to Georgia, South Carolina spent more for fertilizers than any Southeastern State last year, the fertilizers sold in that State probably costing the farmers $10,000,000.

"According to figures compiled by the American Agriculturist, the fertilizer sales in the South for the last year and the preceding year were as follows:

	1905	1904
Florida	111,271	114,072
North Carolina	425,000	435,000
Alabama	238,227	250,036
Tennessee	38,112	35,085
Georgia	713,582	689,916
South Carolina	521,758	475,896
Total	2,047,905	2,000,005

(*American Fertilizer, page 17.*)

AFFIDAVIT OF T. G. HUDSON.

COMMISSIONER OF AGRICULTURE FOR GEORGIA.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,

Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),

Defendants.

} In Equity.

STATE OF GEORGIA—County of Fulton.

Personally appeared before the undersigned authority T. G. Hudson, who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is the Commissioner of Agriculture of the State of Georgia, and as such commissioner has within his custody and control the records of the State of Georgia, showing the amount of fertilizers sold within said State, together with names of all fertilizer manufacturers and mixers permitted to sell fertilizer and licensed to do business within said State.

During the year ending September 20, 1906, tags were sold for fertilizer and cottonseed-meal as follows: Fertilizers, 747,174.5; cottonseed-meal, 1,781,260, or a total of 836,237.5 of fertilizer material. The record for the thirty years immediately preceding is as follows:

COMPARATIVE TRADE IN FERTILIZERS.

The following table shows the number of tons for each of the last thirty seasons:

	Tons.
There were inspected during the season of 1874-5	48,648.00
There were inspected during the season of 1875-6	55,316.00
There were inspected during the season of 1876-7	75,824.00
There were inspected during the season of 1877-8	93,178.00
There were inspected during the season of 1878-9	85,049.00
There were inspected during the season of 1879-80	119,583.00
There were inspected during the season of 1880-1	152,424.00
There were inspected during the season of 1881-2	125,327.00
There were inspected during the season of 1882-3	125,377.00
There were inspected during the season of 1883-4	151,849.00
There were inspected during the season of 1884-5	170,153.05
There were inspected during the season of 1885-6	160,705.00
There were inspected during the season of 1886-7	166,078.00
There were inspected during the season of 1887-8	208,007.39
There were inspected during the season of 1888-9	202,869.36
There were inspected during the season of 1889-90	288,112.30
There were inspected during the season of 1900-1	306,734.00
There were inspected during the season of 1901-2	296,342.00
Tags were sold during the season of 1892-3 for	307,519.30
Tags were sold during the season of 1893-4 for	315,612.00
Tags were sold during the season of 1894-5 for	226,532.20
Tags were sold during the season of 1895-6 for	335,617.80
Tags were sold during the season of 1896-7 for	401,979.10
Tags were sold during the season of 1897-8 for	424,081.00
Tags were sold during the season of 1898-9 for	342,869.30
Tags were sold during the season of 1899-1900 for	412,755.50
Tags were sold during the season of 1900-1 for	478,817.70
Tags were sold during the season of 1901-2 for	493,808.02
Tags were sold during the season of 1902-3 for	628,484.3
Tags were sold during the season of 1903-4 for	689,916.5
Tags were sold during the season of 1904-5 for	713,582.00

The following fertilizer manufacturers and mixers are duly

licensed and authorized to do business within the State of Georgia:

Armour Fertilizer Works.....Atlanta, Ga.
Adair, A. D., & McCarty Bros.....Atlanta, Ga.
Arnold & Co.....Elberton, Ga.
Albany Warehouse Co.....Albany, Ga.
Adrian Guano Co.....Adrian, Ga.
Allison & Cannon.....Lavonia, Ga.
Anderson & Co.....Commerce, Ga.
Atlanta Oil & Fertilizer Co.....Atlanta, Ga.
Atlanta Fertilizer & Improvement Co.....Atlanta, Ga.
Arlington Manufacturing Co.....Arlington, Ga.
Blanchard, Humber & Co.....Columbus, Ga.
Brooks & Tabor.....Royston, Ga.
Brooks & Tabor.....Lavonia, Ga.
Brooks & Tabor.....Hartwell, Ga.
Blackshear Manufacturing Co.....Blackshear, Ga.
Butler, Heath & Butler.....Camilla, Ga.
Brown Bros.....Elberton, Ga.
Bostwick Manufacturing Co.....Bostwick, Ga.
Baker, D. A.....Royston, Ga.
Blakely Oil & Fertilizer Co.....Blakely, Ga.
Busha, S. J.....Buford, Ga.
Bale, F. S.....Rome, Ga.
Bartow Investment Co.....Bartow, Ga.
Benton Supply Co.....Monticello, Ga.
Braselton Bros.....Braselton, Ga.
Brannon, W. A. & Co.....Moreland, Ga.
Butts, D. L.....Devereaux,, Ga.
Buttrill Guano Co.....Jackson, Ga.
Butler, Heath & Butler.....Camilla, Ga.
Brown Guano Co.....Albany Ga.
Barnett, E. A.....Washington, Ga.
Chickamauga Fertilizer Works.....Atlanta, Ga.
Carmichael, J. R.....Jackson, Ga.
Coweta Fertilizer Co.....Newnan, Ga.
Cooper, W. W.....Flowery Branch, Ga.
Canon Oil & Fertilizer Co.....Canon, Ga.
Cochran & Co.....Flint, Ga.

Central Oil & Fertilizer Co.... ....Cordele, Ga.
Cary, C. S.... ....Sparta, Ga.
Camp, H. W. Co.... ....Moreland, Ga.
Crittenden Guano Co.... ....Shellman, Ga.
Clements, R. E. & Son..... .....Buena Vista, Ga.
Cartersville Fertilizer Co.... ....Cartersville, Ga.
Cumberland Fertilizer Co.... ....Cartersville, Ga.
Daniel Sons & Palmer Co.....Millen, Ga.
Dance, C. H..... ....Toccoa, Ga.
Davisboro Cotton Oil & Fertilizer Co.....Davisboro, Ga.
Davis, W. A. & Co.....Macon, Ga.
Daniel, T. Z. & P. V.....Millen, Ga.
Dublin Fertilizer Works..... ....Dublin, Ga.
Davison & Fargo.... ....Augusta, Ga.
Davis Warehouse Co.... ....Columbus, Ga.
Davis, Edwin S.... ....Macon, Ga.
Danville Warehouse Co.... ....Danville, Ga.
Eastman Oil & Fertilizer Co.... ....Eastman, Ga.
Elberton Guano Co.... ....Elberton, Ga.
Everett Mercantile Co.... ....Pelham, Ga.
Empire State Chemical Co..... ....Athens, Ga.
Electric Fertilizer Works.... ....Savannah, Ga.
Edwards, W. C. & Co..... ....Toccoa, Ga.
Ezell, E. B. & Co.... ....Eatonton, Ga.
Elrod, Sanders & Co.... ....Hartwell, Ga.
Furman Farm Improvement Co.. ....Atlanta, Ga.
Farmers' Oil & Fertilizer Co.... .....Lavonia, Ga.
Farmers' Oil & Guano Co.... .. ..Sandersville, Ga.
Farmers' Cotton Oil & Fertilizer Co.... .....Toccoa, Ga.
Fairburn Oil & Fertilizer Co.... .....Fairburn, Ga.
Flowery Branch Gin & Oil Co.... ....Flowery Branch, Ga.
Fort Gaines Fertilizer Co.... ....Fort Gaines, Ga.
Field, J. E. & Son.... ....Cartersville, Ga.
Farmers' Oil & Fertilizer Co.... ....Dawson, Ga.
Fayette Fertilizer Co.... ....Fayetteville, Ga.
Georgia Chemical Works.. ....Augusta, Ga.
Grovania Oil & Fertilizer Co.... ....Grovania, Ga.
Griffin Oil Co.... ....Griffin, Ga.
Greene County Oil Co.... ....Union Point, Ga.

Georgia Fertilizer & Oil Co.... .... Valdosta, Ga.
Georgia Fertilizer Co.... .... Columbus, Ga.
Ginn & Hendricks.. ... ... Bowman, Ga.
Gleaton & Jones.... .... Albany, Ga.
Home Mixture Guano Co..... .... Columbus, Ga.
Hays, A. N..... .... Covington, Ga.
Hand Trading Co.... .... Pelham, Ga.
Harper & Hewell..... Dewey Rose, Ga
Hammock, Rish & Sons.... .... Coleman, Ga.
Harris & Moore.... .... Hampton, Ga.
Heard County Oil & Fertilizer Co..... Franklin, Ga.
Heard & Swift.... .... Middleton, Ga.
Harris, R. S. & Son.... .... Bethlehem, Ga.
Harwell, J. L.... .... Newborn, Ga.
Jelks, W. A. & Co.... .... Hawkinsville, Ga.
Jones, W. O. & Co.... .... Elberton, Ga.
Jones, The W. E. Co..... .... Waynesboro, Ga.
Jones & Roberts Fertilizer Works.. .... Macon, Ga.
Johnson, Brown & Co.... .... Albany, Ga.
Jackson Supply Co.... .... Baconton, Ga.
Jewell, E. H..... .... Gainesville, Ga.
Kitchens, T. L..... .... Mitchell, Ga.
Kelley, J. C..... .... Mitchell, Ga.
Killingsworth, E. W.... .... Fort Gaines, Ga.
LaGrange Mills.... .... Hawkinsville, Ga.
Louisville Manufacturing Co.... .. .. Louisville, Ga.
Lowe, T. J..... .... Mableton, Ga.
Lowrey Bros.... .... Dawson, Ga.
Lewis & Son.... .... Powder Springs, Ga.
Marietta Fertilizer Co.... .... Atlanta, Ga.
Mallett & Nutt.... .... Jackson, Ga.
Mitchell County Fertilizer Co.... .... Camilla, Ga.
Montezuma Manufacturing Co.... .... Montezuma, Ga.
Mutual Fertilizer Co.... .... Savannah, Ga.
Mandeville Mills.... .... Carrollton, Ga.
Maynard & Proctor.... .... Forsyth, Ga.
Mabbett & Groover.... .... Quitman, Ga.
Maret, A. J..... .... .Lavonia, Ga.
Middle Georgia Oil & Fertilizer Co.... .... Dublin, Ga.

Middle Georgia Fertilizer Co.... .....Monticello, Ga.
Madison Fertilizer Co.... ....Madison, Ga.
Monroe Warehouse & Fertilizer Co.... .....Monroe, Ga.
Miller & Wansley..... ....Lavonia, Ga.
McCaw Manufacturing Co..... ....Macon, Ga.
McRae Oil & Fertilizer Co.... ....McRae, Ga.
McDonald & Weaver..... ....Cuthbert, Ga.
McDuffie Oil & Fertilizer Co.... ....Thomson, Ga.
McConnell, L. J.... ....Royston, Ga.
McNair & Young Co.... ....Wrens, Ga.
Neeley, R. C. Co.... ....Waynesboro, Ga.
Napier Bros.... ... .Macon, Ga.
Nasworthy, F. & Co..... ....Dawson, Ga.
North Georgia Oil & Fertilizer Co.... ....Rome, Ga.
Old Dominion Guano Co.... ....Atlanta, Ga.
Oconee Oil & Fertilizer Co..... ....Athens, Ga.
Ocilla Oil & Fertilizer Co.... ....Ocilla, Ga.
Owens, A. J..... ....Canon, Ga.
Pittard, John T.... ....Winterville, Ga.
Pioneer Guano Co.... ....Albany, Ga.
Putney Fertilizer Co..... ....Putney, Ga.
Putnam Oil & Fertilizer Co.... ....Eatonton, Ga.
Pelham Oil & Fertilizer Co.... ....Pelham, Ga.
Perdue, W. J. & Bro..... ....Carrollton, Ga.
Pitts, I. H. & Son.... ....Waverly Hall, Ga.
Pope Manufacturing Co.... ....Washington, Ga.
Perry, F. S. & Co.... ....Camilla, Ga.
Parker, P. N.... ....Gainesville, Ga.
Ramspeck, J. L. & Co.... ....Decatur, Ga.
Ray, C. P..... ....Lavonia, Ga.
Royster, F. S., Guano Co.... ....Macon, Ga.
Redwine, W. W... ....Fayetteville, Ga.
Rome Oil & Fertilizer Co.... ....Rome, Ga.
Southern States Phosphate & Fertilizer Co....Augusta, Ga.
Swift Fertilizer Works..... ....Atlanta, Ga.
Smith, T. N. & J. W..... ....Tennille, Ga.
Savannah Guano Co..... ....Savannah, Ga.
Smith, C. V. & Co.... ....Tennille, Ga.
Stevens, Martin & Co.... ....Carlton, Ga.

Skinner, C. W.... ....Waynesboro, Ga.
Schoen Bros.... ....Atlanta, Ga.
Smith, V. R.. ....Douglasville, Ga.
Smith, B. G., Supply Co.... ....Social Circle, Ga.
Shores, W. A..... ....Baldwin, Ga.
Strickland, A. J., Manufacturing Co.... .....Valdosta, Ga.
Southern Fertilizer & Chemical Co.... .....Savannah, Ga.
Stillmore Chemical Co.... ....Stillmore, Ga.
South Atlantic Fertilizer Co.... ....Valdosta, Ga.
Stevens, O. B..... ....Atlanta, Ga.
Simmons & Hill..... ....Dawson, Ga.
Shirley, George..... ....Bowersville, Ga.
Tabor & Almond..... ....Elberton, Ga.
Tuscarora Fertilizer Co..... ....Atlanta, Ga.
Tifton Fertilizer Co..... ....Tifton, Ga.
Tiller, Glenn & Co..... ....Carlton, Ga.
Tabor, T. O., & Son.... ....Elberton, Ga.
Union Fertilizer Co..... ....Atlanta, Ga.
Virginia-Carolina Chemical Co.... ....Atlanta, Ga.
Vidalia Chemical Co..... ....Vidalia, Ga.
Wilcox, Ives & Co..... ....Savannah, Ga.
Willingham, C. B.... ....Macon, Ga.
Walker Bros..... ....Griffin, Ga.
Warthen & Irwin..... ....Sandersville, Ga.
Wright, W. W., & Co..... ....Jackson, Ga.
Wilkinson County Fertilizer Co.... .....Toomsboro, Ga.
Williams, J. M.... ....Auburn, Ga.
Wrens Trading Co.... ....Wrens, Ga.
Yow & Cooper..... ....Avalon, Ga.
Yow & McMurray.... ....Wrens, Ga.

The following mills and factories outside the State of Georgia are registered in this department for season 1905-'06:

Adams, The Co.... ....Jasper, Ga.
American Agricultural Chemical Co.... ....Baltimore, Md.
Atlanta Chemical Co.... ....Norfolk, Va.
Ashepoo Fertilizer Co.... ....Charleston, S. C.
Anderson Phosphate & Oil Co.....Anderson, S. C.

American Guano Co.....Nashville, Tenn.
Alabama Chemical Co.....Montgomery, Ala.
American Agricultural Chemical Co.....New York, N. Y.
Baugh & Sons Co.....Baltimore, Md.
Birmingham Fertilizer Co.....Birmingham, Ala.
Bradley Fertilizer Co.....Charleston, S. C.
Barker Chemical Co.....Inglis, Fla.
Brode, F. W., & Co.....Memphis, Tenn.
Continental Fertilizer Co.....Nashville, Tenn.
Cumberland Bone Phosphate Co.....Charleston, S. C.
Columbia Guano Co.....Norfolk, Va.
Combahee Fertilizer Co.....Charleston, S. C.
Dothan Guano Co.....Dothan, Ala.
Etiwan Fertilizer Co.....Charleston, S. C.
Empire Guano Co.....Nashville, Tenn.
Federal Chemical Co.....Louisville, Ky.
Florida Manufacturing Co.....Madison, Fla.
Farmers' Fertilizer Co.....Montgomery, Ala.
Gadsden Fertilizer Co.....Gadsden, Ala.
Goulding Fertilizer Co.....Pensacola, Fla.
Grasselli Chemical Co.....Birmingham, Ala.
Home Fertilizer Chemical Works.....Baltimore, Md.
Houston Guano Co.....Dothan, Ala.
Johnson, W. B., & Co.....Memphis, Tenn.
Louisville Fertilizer Co.....Nashville, Tenn.
National Fertilizer Co.....Nashville, Tenn.
Nashville Guano Co.....Nashville, Tenn.
Navassa Guano Co.....Norfolk, Va.
Ober, G., Sons & Co.....Baltimore, Md.
Pacific Guano Co.....Charleston, S. C.
Painter, E. O., Fertilizer Works.....Jacksonville, Fla.
Powhattan Chemical Co.....Richmond, Va.
Royster, F. S., Guano Co.....Macon, Ga., and Norfolk, Va.
Read Phosphate Co.....Nashville, Tenn.
Richmond Guano Co.....Richmond, Va.
Standard Chemical & Oil Co.....Troy, Ala.
Standard Guano & Chemical Co.....New Orleans, La.
Sanders Fertilizer Co.....Jacksonville, Fla.
Scholze Bros.....Chattanooga, Tenn.

Tennessee Chemical Co..... ....Nashville, Tenn.
Tennessee Fertilizer Co..... ....Montgomery, Ala.
Tennessee Fiber Co..... ....Memphis, Tenn.
Tindall, C. A. & Co.... ....Memphis, Tenn.
Williams & Clark Fertilizer Co.....Charleston, S. C.
Wilson & Toomer Fertilizer Co.....Jacksonville, Fla.
Wells, J. Lindsey Co.... ....Memphis, Tenn.

T. G. HUDSON,
Commissioner of Agriculture.

Sworn to and subscribed before me, this ..... day of September, 1906.

W. H. HARRISON,
Notary Public, Fulton county, Georgia.

DEPARTMENT OF COMMERCE AND LABOR.
BUREAU OF THE CENSUS.
WASHINGTON.

June 12, 1906.

CENSUS MANUFACTURES.

FERTILIZERS.

(Preliminary Summary.)

The director of the census announced to-day the result of the tabulation of the statistics of fertilizers for the calendar year 1904, forming a part of the census of manufactures of 1905, taken in conformity with the Act of Congress of March 6, 1902. The figures indicate that there has been a substantial increase in the manufacture of fertilizers, as compared with the statistics of 1900, which covered the fiscal year ending May 31st.

Comparative figures for 1905 and 1900 are shown in the following summary:

	1905	1900	PER CENT. OF INCREASE
Number of Establishments	400	422	5.2 (1)
Capital	$ 69,023,264	$ 60,685,753	13.7
Salaried Officials, Clerks, Etc.,			
Number	1,618	1,712	5.5 (1)
Salaries	$ 1,940,712	$ 2,124,972	8.7 (1)
Wage Earners,			
Average Number	14,201	11,581	22.6
Wages	$ 5,142,147	$ 4,185,289	22.9
Miscellaneous Expenses	$ 4,919,824	$ 3,734,285	31.7
Materials Used,			
Total Cost	$ 39,343,914	$ 28,958,473	35.9
Products,			
Aggregate Value (3)	$ 56,632,853	$ 44,657,385	26.8
Featilizers,			
Total Value	$ 50,506,291	$ 40,515,66·	

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fulton.

Personally appeared A. A. Smith who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and is engaged in business in the city of Atlanta therein as a dealer in fertilizer supplies and materials, including sulphuric acid, and is familiar with the market value of the same.

That the most recent quotations fixing the market value of sulphuric acid in tank cars at not less than carload lots, f. o. b. cars in the city of Atlanta is $10.40, and that said sum of $10.40 per ton is the approximate market value of said sulphuric acid.

A. A. SMITH.

Sworn to and subscribed before me, this 25th day of September, 1906.

HARVEY HILL,
Notary Public, Fulton county, Georgia.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fulton.

Personally appeared before the undersigned authority John M. McCandless who, being duly sworn, deposes and says:

Deponent is a chemist by profession and has been for the past twenty years, and is now Chemist for the State of Georgia, which office deponent has held for eight years.

Deponent has read the supplemental affidavit of J. Parke Channing, president of the Tennessee Copper Company, in which the maximum capacity of the present furnaces of said Tennessee Copper Company is declared to be 1,800 tons of ore per day, and that such ore will not carry in excess of 30 per cent. of sulphur.

Based upon the maximum capacity of said plant and upon the entire sulphur contents of said ore being converted into sulphur dioxid and also upon the whole of said sulphur dioxid being converted into sulphuric acid, the maximum capacity of the plant for the production of sulphuric acid would be, theoretically, 603,618.75 tons of chemically pure ($H_2 SO_4$) sulphuric acid per annum. These figures converted into weak

acid, usually produced in chambers, would be equal to 965,687 tons of what is known as 50° Beaume acid, or chamber acid. These figures, however, represent the theoretical production and presuppose that every ounce of sulphur is burned and converted without loss into $H_2 SO_4$ or monohydrated sulphuric acid or its equivalent in 50° sulphuric acid. In practice, as a matter of fact, this production would not be attained; Lunge (page 759) gives as a result of the best practice of a number of the best French and German works a yield of 270 of pure sulphuric acid on 100 of sulphur charged. On this basis, in practice, using 1,800 tons of 30 per cent. ore daily the annual production would be 532,170 tons of chemically pure sulphuric acid, or 851,206 tons of 50° or chamber acid.

JNO. M. MCCANDLESS.

Sworn to and subscribed before me, this 7th day of September, 1906.

GEO. A. T. STEVENS,
Notary Public, Fulton county, Georgia.

AFFIDAVIT OF J. W. ABERCROMBIE.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. W. Abercrombie, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and farmer, residing two miles N. Morganton.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent's crop of cabbage was a failure, tomatoes and potatoes were very sorry, fodder was badly damaged—scarcely a fourth crop raised. Deponent does not grow small grain, the same will not mature, but is light and chaffy. Timber in my section is badly damaged, worse this year than ever before. Deponent's orchard was almost a failure, and was also almost a total failure all over this section of the country.

J. W. ABERCROMBIE.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN, J. P.
Fannin County, Ga.

AFFIDAVIT OF J. W. ALLEN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. W. Allen, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident of Fannin County, Georgia, near the town of Morganton, and has a farm upon Star Creek, in said county.

Deponent has often noticed sulphur fumes during the past two years in said locality, and since said sulphur fumes became noticeable a great amount of timber has died, crops have been very poor and orchards and gardens a failure. During the past spring and summer tomatoes and cabbage could not be grown by deponent upon his said place. On one occasion, immediately after deponent had uncovered a bed of young cabbage sprouts, the sulphur fumes were quite noticeable and upon the following day deponent discovered that his cabbage plants had turned white as though they had experienced a severe frost. The plants were all destroyed.

If the injury from the fumes continues to progress in the future as rapidly as in the past, it will be but a short time before the section of country surrounding deponent's property will be wholly devastated and property values destroyed.

J. W. ALLEN.

Sworn to and subscribed before me, this 18th day of November, 1905.

G. D. NIXON, N. P. and J. P.,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF J. L. ANDERSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. L. Anderson, who, being duly sworn in the above-styled cause, deposes and says:

The deponent is a resident, citizen and property owner of Fannin County, Georgia, and has a farm in said couty about one mile from Hot House post-office, at which place deponent has resided for the past eight years. The sulphur fumes generated by the copper plants just across the Tennessee line from Fannin county are frequently in evidence in said locality, and since said fumes have made their appearance, great quantities of timber have died, and crops,orchards and gardens have failed. A large percentage of the inhabitants of said region are farmers, depending upon the products of their farms for sustenance, and if said fumes continue, the farmers in said locality can no longer earn their livelihood from their farms. The injury is growing each year, that of the past season being much greater than the injury of the preceding year.

J. L. ANDERSON.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,

Notary Public Fannin County, Ga.

AFFIDAVIT OF JOHN W. ANDERSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, John W. Anderson, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a citizen, resident and property-owner of Fannin county, Georgia, in which county he has lived for the past fifty years. Deponent is a farmer, and has a farm about four miles distant from the town of Mineral Bluff.

Up to the time the Tennessee and Ducktown Copper Companies began operating extensively and producing large quantities of sulphur gases, the locality in which deponent resides was good farming country and the soil was quite productive. Two crops a year were raised, that growing through the winter being of course of the small grain variety. Since the sulphur fumes, however, have become prevalent, not only have enormous quantities of timber been killed, but orchards have been injured and destroyed, fruit crops ruined, gardens become unproductive, and crops generally have failed to some extent. The fumes in said

locality are often strong enough to be disagreeable. Many trees are destroyed along the roadside, thereby rendering passage over the roads not only dangerous, but frequently very difficult by reason of the roadways being blocked or interfered with.

JOHN W. ANDERSON.

Interlined before signing.

J. F. M'NELLY, N. P.

Sworn to and subscribed before me this 18th day of November, 1905.

J. F. M'NELLY,
Notary Public Fannin County, Ga.

AFFIDAVIT OF B. C. ARP.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared B. C. Arp, who being duly sworn in

the above styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and his occupation is that of a farmer, his farm is located three miles north of Blue Ridge, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Garden was killed by said fumes in a single night during the month of August, 1905. Deponent's garden and pea crop was in a flourishing condition, but after the night in which the smoke settled down in said locality was noticeably strong. Said garden and pea crop were whitened and withered, and had the appearance of having suffered a very heavy frost and in consequence of such injury were utterly ruined.

B. C. ARP.

Sworn to and subscribed before me, this 18th day of November, 1905.

WILLIAM BUTT,

Notary Public Fannin County, Georgia.

AFFIDAVIT OF J. R. BALLOU.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. R. Ballou, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a citizen, resident and land owner of Fannin county, Georgia, in which county deponent has lived for the past forty-three years. Deponent is a farmer, his farm being located on Hothouse Creek, about one mile south of Hothouse post-office.

The fumes produced by the copper companies at and near Ducktown, Tennessee, are often present in deponent's locality, and frequently are strong enough to unpleasantly affect many persons, such fumes producing a difficulty in breathing, an irritation in the throat, and sometimes severe coughing spells. Since said fumes became noticeable in said locality, great amounts of timber have died; crops have utterly failed, and orchards and gardens have been rendered well-nigh worthless. This is true not only with corn, peas and melons, but also of winter-growing crops, such as wheat, rye and barley.

The injury in the past season has been very great. Deponent's property is fitted for nothing else than farming, and deponent is dependent upon said farm for his livelihood. Deponent, for a winter-growing crop, has sowed rye upon said farm, but same is already injured by the sulphur fumes, and if said crop is subjected to the fumes throughout the winter, said crop will be greatly injured, if not wholly destroyed.

J. R. BALLOU.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF D. R. BALLEW.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared D. R. Ballew, who being duly sworn in

the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer by occupation, his farm being located three miles north of Blue Ridge, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent is a road commissioner of said county, whose duty it is as such to see to the safety and well keeping of the public roads within his territory. The timber destroyed, as heretofore set forth, often stands along the roadside and menaces the safety of and free passage over said roads, and it is necessary to have road hands or rather persons continually watch for and cut out such dead and dying timber to keep the roads open and prevent injury to persons passing thereon.

D. R. BALLEW.

Sworn to and subscribed before me, this 18th day of November, 1905.

J. R. CHASTAIN,

United States Commissioner.

AFFIDAVIT OF W. C. BALLEW.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, W. C. Ballew, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

W. C. BALLEW.

Sworn to and subscribed before me, this 20th day of November, 1905.

J. F. M'NELLEY,
Notary Public Fannin County, Ga.

AFFIDAVIT OF J. N. BURNS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. N. Burns, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

J. N. BURNS.

Sworn to and subscribed before me, this 20th day of November, 1905.

J. F. M'NELLEY,

Notary Public Fannin County, Ga.

AFFIDAVIT OF A. J. BELL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, A. J. Bell, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident of North Carolina near the boundary line, between the said State and the State of Georgia, and is the owner of a farm in Georgia on Hothouse Creek, as well as property in North Carolina, in the neighborhood of Wolfe Creek.

The sulphur fumes generated by the copper companies at and near Ducktown and McCays, Tennessee, are often in evidence both upon deponent's place in North Carolina and that in Georgia, and much timber upon both places have been killed, and the crops badly injured since said fumes became noticeable in said localities. Practically no small grain, or winter-growing crops can be raised, and oats, wheat, corn, barley and rye have been practically non-productive since said fumes became prevalent.

Up to the time said fumes were diffused over said territory

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the farms were fertile, producing two crops a year; that is, such crops as corn, melons, peas, sorghum cane, and the like, for the summer season, and oats, wheat, rye and other winter-growing crops for the other season. Both crops are severely injured and have been failures since said fumes became noticeable. The dead and dying trees along the roadside throughout portions of Fannin county and, as a matter of fact, in North Carolina, often menace the safety of the travelers upon such roads, and in addition frequently block or interfere with passage over said roadways by falling across or upon the same.

A. J. BELL.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF JAS. A. BRUCE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared James A. Bruce, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and I am a farmer living on the waters of Hemptown, in the eastern part of county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides, and when the air is from the northwest any individual who suffers from catarrh, in my opinion, is damaged to some extent.

JAS. A. BRUCE.

Sworn to and subscribed before me, this day of November, 1905.

G. D. NIXON, N. P., J. P.,
Fannin County, Georgia.

AFFIDAVIT OF J. M. CARTER.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J .M. Carter, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, Star Creek, one and a half miles east of Morganton.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent has often noticed sulphur fumes during the past two years in said locality, and since said sulphur fumes became noticeable a great amount of timber has died, crops have been very poor, and orchards and gardens a failure. During the past spring and summer tomatoes and cabbage could not be grown by deponent upon his said place. If the injuries from the fumes continue to progress in the future as rapidly as in the past, it will be but a short time before the section of country will be wholly devastated and property values destroyed.

J. M. CARTER.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN, J. P.

Fannin County, Ga.

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AFFIDAVIT OF A. J. CAYLOR.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, A. J. Caylor, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and has a farm located about five miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

his
A. J. X CAYLOR.
mark.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF D. J. CHANCE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, D. J. Chance, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, being located on Hemptown Creek, ten miles east of Blue Ridge, and twenty miles southeast of Isabella, Tenn.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

The smoke is injurious to the vegetation generally; fodder was practically rotten three weeks before ripe. Fruit crops are almost a failure and the timber is greatly damaged, already a large portion is dead. Wheat crop was damaged. I have seen the bean and pea vines killed by said fumes. Also, I believe said fumes does injury to the health of the people.

D. J. CHANCE.

Sworn to and subscribed before me, this 20th day of November, 1905.

JAS. A. BRUCE, J. P.

Fannin County, Ga.

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AFFIDAVIT OF E. J. CHASTAIN, TAX-COLLECTOR GILMER COUNTY.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared, E. J. Chastain, who, being duly sworn in the above styled cause, deposes and says:

Deponent is a resident of Gilmer county, Georgia, and has been for the past thirty-two years, and is at present Tax-Collector of said county, which office he has held for two terms. Deponent is now serving his third year in said capacity.

The duties and rules of the office of Tax-Collector require that he travel throughout the entire county, through its several precincts three times a year, the taxes being paid to deponent upon said trips, and not as is customary in more populous counties, merely at the office of the Tax-collector at the county seat.

Deponent has noticed during the said trips the great destruction of timber. This is especially true of such trees as hickory, chestnut oak and chestnut, but the entire forest appears to be

more or less injured. The destruction of this timber has undoubtedly resulted in a considerable property loss to Gilmer county and her citizens.

The roads in many sections are to a degree rendered unsafe by the dead timber, and often the roads are blocked by fallen dead trees. In fact, in some localities the safety over and free passage upon the roads are preserved only by cutting away the dead trees along the roadside, of which there are at times large numbers. On the last trip of deponent, a major portion of the present week, the same being through the Ducktown section, or eastern portion of Gilmer county, the dead timber along some of the roads was being cut out, of which there was quite a large amount. A portion of one of the main roads in particular, where the dead trees were most in evidence, was quite steep and rendered dangerous not only by the possibility of fallen trees, but also by the fact that should said trees fall across said roadway, they would, in addition, afford dangerous barriers, particularly to those travelers who might use the road at night. This danger was removed only by cutting and destroying such dead trees.

E. J. CHASTAIN.

Sworn to and subscribed before me this 10th day of November, 1905.

E. BUFFINGTON,

Notary Public of Gilmer County, Georgia.

AFFIDAVIT OF J. D. CHASTAIN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared J. D. Chastain, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm located three miles from Blue Ridge.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general injury to the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

J. D. CHASTAIN.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF J. R. CHASTINE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. R. Chastine, who, being duly sworn in the above-styled cause, desposes and says:

Deponent is a resident of Fannin county, Georgia, and lives about five miles to the east of the town of Blue Ridge. Deponent is United States Commissioner, but is also engaged in farming, and was a member of the legislative committee appointed to investigate the damage, if any, being wrought by the fumes generated by the copper companies near Ducktown and Isabella, Tennessee.

Deponent has recently gone over a considerable portion of Fannin county, and practically throughout the entire county damage has been done by said fumes. This injury is greatest along the valley and lower lying lands upon the Toccoa river and its tributaries, and other valleys and hillsides within, or opening into the depression within which the Ducktown works are situated.

Great quantities of timber have been killed, crops have been injured, fruit destroyed and gardens made worthless.

At deponent's residence the smoke and sulphur fumes are frequently to be found. The fumes are discernable not only through their unpleasant odor, but also to the eye, they being often thick enough to produce a haze.

The fumes have already destroyed beyond hope of recovery thousands of dollars' worth of property in Fannin county, and if allowed to continue will practically devastate a considerable portion of said county and totally destroy the value of hundreds of thousands of dollars' worth of property in the State of Georgia.

J. R. CHASTINE.

Sworn to and subscribed before me this 17th day of November, 1905.

WILLIAM BUTT,

Notary Public Fannin County, Ga.

AFFIDAVIT OF O. F. CHASTINE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, O. F. Chastine, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a citizen of Fannin County, Georgia, and has been for a number of years living in the town of Morganton. In the locality of deponent's residence the fumes are often in evidence, and are strong enough to be extremely disagreeable in odor. Said fumes have not only killed deponent's garden, but even his wife's flowers in the yard, such flowers as sweet peas and others growing upon fragile stalks are particularly susceptible to the fumes.

Deponent is an agent for farming implements and also for life insurance; and by reason of such agencies travels constantly throughout Fannin and the surrounding counties, and the injury by said fumes is apparent over a considerable portion of the

territory which deponent traverses. The injury to timber is exceedingly great, and crops, orchards and gardens generally suffer exceedingly from said fumes. Small grain, such as rye, oats, wheat and the like suffer particular injury. Deponent during the past year had planted upon his place, among other things, cow-peas, sorghum cane and corn, all of which were killed or injured by the sulphur fumes. After the presence of the strong fumes deponent's peas and sorghum cane looked as though they had experienced a severe frostbite. In consequence of the injuries from said sulphur fumes the peas and sorghum cane were wholly destroyed. Deponent's fodder was also utterly ruined.

The injuries from said fumes were much greater during the past year than ever before, and if said fumes continue it will be impossible to raise farm products, not only throughout the section where deponent resides, but over a considerable portion of said county. This is especially true if the fumes are to be increased by the opening of additional smelters.

Deponent further swears that he had the best stands of grass he ever saw (that he had been in the grass business for several years); that some time in June of this year, 1905, one evening deponent noticed that the sulphur fumes were particularly strong. The next morning deponent's grass was burned and withered and had the appearance of having suffered a severe frost. Deponent's grass died and was not cut at all.

O. F. CHASTINE.

Sworn to and subscribed before me, November 17, 1905.

J. M. ALLEN, J. P.,

Notary Public Fannin County, Ga.

AFFIDAVIT OF W. K. CHASTAIN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared W. K. Chastain, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer and has a farm located 5½ miles from Blue Ridge.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

W. K. CHASTAIN.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF M. S. CLAYTON, COUNTY SURVEYOR, GILMER COUNTY.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared, M. S. Clayton, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident of Gilmer county, Georgia, and is County Surveyor of said county, the duties of which office deponent has performed for about ten years preceding the present time.

The deponent has not only surveyed in Gilmer county, but also in the adjoining counties, the greater portion of which surveying has been for the purpose of locating land and lot lines in the timber districts in North Georgia. Deponent is forty-nine years of age and has always lived in said section, and for a long time past has constantly traversed the territory embraced by Gilmer, Fannin and Murray counties. It was deponent's custom in surveying to pay particular attention and in fact to closely observe the timber along the lines surveyed by him, and as a rule he reported the condition of such timber to the parties for whom he was making such surveys. As a matter of fact, considerable observation of the timber was absolutely necessary in making a survey as lot lines and boundary demarkations are effected throughout said counties as a rule by blazing, and specially marking trees, figures indicating the location of the line and number of the lot being cut in station trees. In fact, practically the only marking throughout the timbered country is by blazed and station trees.

Until about three years ago the forest throughout the territory surveyed by deponent appeared to be in a generally healthy condition, but during the latter part of 1902 many of the trees began apparently to sicken and since that time vast numbers have died. This is especially true of the hickory, chestnut oak and chestnut trees. Forest, generally, however, have been badly injured, in fact, the injury has been so great and the destruction of the trees so widespread that it is almost the exception rather than a rule, when blazed or station trees are to be found.

Throughout the territory heretofore specified, that is in Gilmer, Fannin and in the northeastern portion of Murray county, sulphur fumes generated by the copper plants in the neighborhood of Ducktown, Tennessee, are very noticeable. This is especially true when the wind is in the north.

Deponent has also observed during the past three years, and

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especially during 1904 and 1905, that the fruit throughout the territory subject to said copper fumes has failed and through a considerable part of said country the fodder has rotted and the crops are poor.

Deponent is not sufficiently familiar with the exact value of the different timber or of the full scope of the damage to fruit and farm products to state accurately the amount of property that has been destroyed, but it is certain from the destruction witnessed by deponent that many thousand dollars' worth of property have been lost to the State of Georgia and her citizens in the counties of Murray, Gilmer and Fannin.

M. S. CLAYTON.

Sworn to and subscribed before me this —— day of November, 1905.

J. I. WEAVER,

Notary Public Gilmer County, Georgia.

AFFIDAVIT OF J. E. COCHRAN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared, J. E. Cochran, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and deponent is a farmer, his farm is about three miles from Blue Ridge, on the waters of Sugar Creek, and about eight miles from the mines.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides. crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Gardens are killed in a single day or night; that during the month of July, don't recollect the day, in this year, the smoke came to my farm and soon after it left garden vegetables and melon vines looked as though there had been a killing frost on them, and you could see the effects of it on all farm products, and in two or three days after the smoke had been there the leaves on the trees would die and in a short time fall to the ground like it was in late fall of the year.

J. E. COCHRAN.

Sworn to and subscribed before me, this 20th day of November, 1905.

W. J. MATTHEWS, J. P.
Fannin County, Ga.

AFFIDAVIT OF W. R. COLE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared before me W. R. Cole, who, being duly sworn herein, deposes and says:

Deponent is a liveryman by occupation, and has been for many years, and spends a considerable portion of his time driving his customers throughout the different parts of Fannin and Gilmer counties, Georgia. Deponent is a resident of Blue Ridge, Fannin County, Ga.

Deponent during the past two or three years, while driving through said counties as aforesaid has observed the great destruction of timber, vegetation and crops within the zone of the sulphur fumes generated by the Ducktown copper companies. The character of the injury to timber first attracted deponent's attention, that is, the browning and burning of the leaves at times, and the falling of same long before the autumn season, and the fact that the trees began dying at the top and that the injury gradually descended. Prior to the notice of such injuries, however, deponent had often observed the presence of said

sulphur fumes throughout a considerable portion of the counties. Such fumes were not only noticeable through their unpleasant odor, but frequently were so thick that they formed in effect a haze in the atmosphere.

The trees killed, as aforesaid, were often a menace to the safety of and passage over the roads throughout said counties. Deponent has frequently found that dead trees had fallen across and blocked the roadways through the timbered country. The dead and dying trees constituted a frequent menace to the travelers using such roads, not only by the danger of the injury to the driver as well as animals and vehicles from the falling trees or limbs, but also as an unexpected obstruction upon the road.

Deponent has had the good fortune not to have driven into such an obstacle, but he attributes such good fortune largely to the fact that the dead trees are usually cut by road hands, or other persons, so as to prevent their blocking or falling upon the roadways. If such trees were not constantly cut and removed, the danger upon said roads, as well as the inconvenience, would be infinitely greater than it is.

Deponent has often noticed the sulphur fumes in various portions of Fannin and Gilmer counties. The smoke and fumes are often thick enough to produce a haze, and deponent has seen such fumes so dense in the northern part of Fannin county, particularly late in the afternoon, that they resembled a heavy mist or fog, and objects only a few yards distant were barely discernible. The fumes are often strong enough to produce a severe smarting sensation in the throat and nostrils and produce considerable coughing. This is particularly true in the case of customers of deponent who are not accustomed to said fumes, as more than once deponent has had a passenger to temporarily suffer severely from the unpleasant effects of said sulphur smoke.

his
W. R. X COLE.
mark.

Sworn to and subscribed before me, this day of November, 1905.

W. A. WILSON, J. P.,
Notary Public Fannin County, Ga.

AFFIDAVIT OF ROBERT M. COLE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared, Robert M. Cole, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, lives on Fighting Town Creek, nine miles west of Blue Ridge, and four miles south of the Tennessee Copper Company furnaces.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides. crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

That the damage has been greater this year than heretofore, that the smoke came up this summer and deponent's garden was almost ruined, and it killed his Irish potatoes, and we did not get anything from them.

ROBERT M. COLE.

Sworn to and subscribed before me, this 21st day of November, 1905.

W. J. MATTHEWS, J. P.
Fannin County, Ga.

AFFIDAVIT OF W. B. COLE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, W. B. Cole, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm four miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

W. B. COLE.

Sworn to and subscribed before me, this 20th day of November, 1905.

FRED FORRESTER,

Notary Public Fannin County, Ga.

AFFIDAVIT OF J. E. COOK.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,

County of Fannin.

Personally appeared J. E. Cook, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a farmer residing near Hemp P. O., Fannin County, Georgia, in which county deponent has lived for the past thirty-one years.

Deponent's farm is located upon Hemptown Creek, a tributary of the Toccoa river, some little distance to the southward of Mineral Bluff, Ga., and up to a very recent date has been both fertile and productive. During the past year or so, however, conditions have greatly changed. The smoke and sulphur fumes generated by the copper works, just over the Tennessee line and near Ducktown and Isabella, Tennessee, have almost wholly destroyed the value of his property as a farm; often, in fact, whenever the wind is from the northward, the fumes envelope the neighborhood, are disagreeable in odor and

settle upon the earth like a cloud or mist, and the growing crops are stunted, injured, and frequently killed. The damage during 1905 was much greater than in 1904—each year it is increasing. A greater portion of the timber has already been destroyed; orchards are much damaged and non-productive. Notwithstanding the fact that the past season was excellent as far as rain and weather was concerned, the crops were woeful failures. The corn and fodder at least six weeks before the first frost looked blighted and as though frost-bitten. The fodder rotted on the stalk before it was ripe for gathering. The small grain crops are also injured.

These conditions are attributable to no other source than the sulphur fumes. If the fumes continue in the future as they have in the past, deponent's farm will be of no value, as practically nothing can be raised thereon. Only broomsage seems able to stand the sulphur fumes.

The conditions related by deponent do not apply to deponent's farm alone, but also to those in his neighborhood not protected by hills or mountain barriers from said smoke and fumes.

The conditions set forth and the damage related are general. Continued operation of said copper works will in effect work nothing short of a confiscation of deponent's property, as it will be rendered worthless to him as a farm and valueless in the market.

JOHN E. COOK.

Sworn to and subscribed before me, this 20th day of November, 1905.

JOS. A. BRUCE, J. P.
Fannin County, Ga.

AFFIDAVIT OF JOE COOK.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Joe Cook, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and farmer, residing near Hurst, five miles south of Morganton, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent's corn crop was badly damaged, the fodder burnt up and rotted long before the corn matured. Gardens were almost a failure. Timber died considerably this year, worse than ever before. Small grain was badly damaged and did not more than half mature. The small grain was generally very light and chaffy. Smoke can be easily seen and smelt frequently at my house. I live about 18 to 20 miles from the Ducktown furnaces.

JOE COOK.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN, J. P.
Fannin County, Ga.

AFFIDAVIT OF JOSEPH M. COOK.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Joseph M. Cook, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, being located on Hemptown Creek, ten miles east of Blue Ridge, and twenty miles southeast of Isabella, Tenn.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Fruit crop almost a failure, fodder was only worth half price; timber is dying, a large portion already dead. So far as rain and good weather was concerned, we had an excellent season for farming.

J. M. COOK.

Sworn to and subscribed before me, this 20th day of November, 1905.

_____,

Notary Public County, Ga.

AFFIDAVIT OF JOHN C. CORDELL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, John C. Cordell, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident, citizen and property owner of Fannin County, Georgia, in which county he has lived the past 43 years. Deponent is a farmer, located about four miles from the town of Mineral Bluff, and in deponent's locality the fumes produced by the sulphur plants in Tennessee, just beyond the line of Fannin county, are frequently present. Since the appearance of said sulphur fumes in deponent's neighborhood, quantities of timber have been killed, and crops, gardens and orchards practically ruined. The land in said locality is suitable only for farming and forestry purposes, and with the crops destroyed and the timber killed by said fumes, the land is rapidly becoming valueless. The winter-growing crops, such as oats, barley and

the like, are greatly injured by the fumes. Each and all of the injuries are constantly on the increase.

JOHN C. CORDELL.

Sworn to and subscribed before me, this 18th day of November, 1905.

F. M. HARPER, J. P.,
Notary Public Fannin County, Ga.

AFFIDAVIT OF J. L. CULBERSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. L. Culberson, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State

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and county, and has a farm located six miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

J. L. CULBERSON.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

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AFFIDAVIT OF J. Y. CURTIS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared J. Y. Curtis, who being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and his occupation is that of a farmer; his farm is located one mile north of Blue Ridge, Ga., on the waters of Toccoa.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Crop of corn was killed by said fumes in a single night. During the month of August, 1905, deponent's crop of corn was in a flourishing condition, but a night in which the smoke settled down in said locality, and was noticeably strong, the crop of corn was whitened and withered, and had the appearance of a heavy frost. In consequence of such injuries said crop of corn was almost ruined.

J. Y. CURTIS.

Sworn to and subscribed before me, this 17th day of November, 1905.

WILLIAM BUTT,

Notary Public Fannin County, Georgia.

AFFIDAVIT OF A. B. DAVIS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, A. B. Davis, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm located one-half mile from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

A. B. DAVIS.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF JOHN E. DAVIS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Rev. John E. Davis, who, being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and County, and resident of Morganton, Georgia, and farmer, whose farm is located five miles southeast of Morganton.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent's crop was damaged considerably and his timber is dying. Fodder was almost a total failure, notwithstanding the season was good. Deponent has noticed other crops and they also were damaged as deponent's. Fodder would die while the shuck was green. Corn is chaffy and light. Crops have suffered more this year than ever before. If the fumes continue farming in this county will have to be abandoned.

JOHN E. DAVIS.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN, J. P.,
Fannin County, Gorgia.

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AFFIDAVIT OF W. A. DAVES.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,

Fannin County.

Personally appeared W. A. Daves, ordinary of Fannin county, Georgia, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and farmer and resident of said county, five miles east of Morganton, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

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able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent further swears that the crops of general character, that is, corn, rye, oats, etc., the fodder crops, especially, began to rot before and about the time corn was tasseling and silking. Notwithstanding the season was good, better than usual, so long as the fumes are generated, deponent's corn will be almost a total failure. The damage this present year was greater than ever before, and deponent verily believes his farm will ultimately be wholly ruined if said furnaces continue. Deponent had not been in his timber lands for quite awhile. On yesterday, November 16th, I went out to get some square timber and was very much surprised to find that his timber was largely dead and balance dying. The timber was very fine.

W. A. DAVES.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN,

J. P. Fannin County, Georgia.

AFFIDAVIT OF S. A. DEAN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, S. A. Dean, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

S. A. DEAN.

Sworn to and subscribed before me, this 20th day of November, 1905.

J. F. M'NELLEY,
Notary Public Fannin County, Ga.

AFFIDAVIT OF W. H. DAVENPORT.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared W. H. Davenport, who being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is a resident citizen of State and county, and is a farmer.

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During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

My Irish potatoes, tomatoes and bunch beans were ruined on account of smoke and stubble such as rag weeds, cockle-burs and other stubble was killed just as if there had been a big frost on it.

W. H. DAVENPORT.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF A. B. DICKEY.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, A. B. Dickey, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident, citizen and property owner of Fannin county, Georgia, and lives upon his farm on Hothouse Creek, about two and one-half miles north of Mineral Bluff. The sulphur fumes generated by the copper companies at and near Ducktown and McCays, Tennessee, are often exceedingly strong in deponent's neighborhood. Not only are the fumes sensible to smell and sight, but they are even strong enough to be tasted, and are in evidence a considerable portion of the time.

These fumes bite down crops and general vegetation in a manner similar to a severe frost. For the past three years deponent's crops have been greatly injured, and each year the injury is greater than that of the year preceding. The small grain, such as wheat, oats and rye, has suffered particularly heavy damage.

The locality in which deponent resides is especially adapted for farming, the soil being productive, and up to the time sulphur fumes made their appearance, the land made excellent returns to the farmers; two crops are raised a year, small grain, that is, wheat, rye and the like, being sowed for winter. This crop which is now coming up has already been badly injured by the sulphur fumes. The grain can in a measure recover from the injury already done, if the fumes are not continued, but if the crop is to be subjected throughout the winter and spring to the fumes, the grain will most assuredly be destroyed.

During the past season what little late corn there was produced upon deponent's farm was shriveled and shrunken as to grain, the heart of the kernel being blackened and the fodder upon the stalk of said corn had rotted and was well-nigh worthless. In addition, deponent's garden was badly injured and fruit much damaged.

During the month of July his garden was in a single day killed down as though it had experienced a severe frost. No such injuries as these happened upon deponent's place prior to the institution of the plants of the Tennessee Copper Company and the Ducktown Copper Company. Deponent has resided in the said county for the past sixty-one years.

The safety of the roads in said locality are often menaced by dead and dying trees along the roadside. Upon the main roads the safety and free passage are, in a measure, protected by the constant cutting of the dead timber by road hands, or the parties under the direction of the County Road Commissioners or overseers, but upon the mill or meeting roads, and the roads not watched by the Road Commissioners, falling timber is frequent; the roads often blocked and the passage thereover rendered both difficult and dangerous.

The smoke and sulphur fumes from said copper works in deponent's locality are often exceedingly unpleasant, producing coughing, and in the instance of deponent's daughter who suffered with weak lungs, almost suffocation. When the fumes lie heavy, particularly in rainy weather, and at other times when

the wind is in deponent's direction from said furnaces, deponent's daughter is forced to remain close indoors in order to breathe with any degree of comfort whatsoever.

A. B. DICKEY.

Sworn to and subscribed before me this 18th day of November, 1905.

J. F. M'NULTY,
Notary Public Fannin County, Ga.

AFFIDAVIT OF J. P. DILLARD.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. P. Dillard, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State

and county, and is a farmer, and has a farm located three miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

his
J. P. X DILLARD.
mark.

Sworn to and subscribed before me, this 18th day of November, 1905.

I RED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF W. K. DILLARD.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, W. K. Dillard, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm located three miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

W. K. DILLARD.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF HORACE M. ELLINGTON, NURSERYMAN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared, H. M. Ellington, who, being duly sworn in the above-styled cause, deposes and says:

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Deponent is at present postmaster at Ellijay, Ga., which office he has held for about a year past; prior to that time deponent was in the nursery business, having nurseries located in Gilmer county, Georgia. Since the inauguration of the present copper plants near Ducktown, Tennessee, and as a result of the sulphurous gases generated by such plant, said gases absolutely destroying the fruit crops in many localities and injuring and killing the orchards, defendant's business has been greatly injured, the sales of said nursery products being largely confined to counties within the scope of the injurious effects of the sulphurous fumes.

HORACE M. ELLINGTON.

Sworn to and subscribed to before me this the 10th day of November, 1905.

E. BUFFINGTON, C. N. P.,
Notary Public of Gilmer County, Georgia.

AFFIDAVIT OF M. FARMER.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, M. Farmer, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident of Fannin County, Georgia, in which county he has lived for the past thirty-nine years and is a farmer, his farm being located about one mile north of Mineral Bluff.

The fumes produced by the copper companies at and near Ducktown are often present and very strong in deponent's locality. These fumes are not only disagreeable in odor, but produce irritating effects in the throat and frequently considerable coughing; they are particularly disagreeable to any person whose lungs are weak, as they result in suffocating sensations.

In the locality in which deponent resides a large per cent. of all the timber has been killed; crops have been ruined, orchards have failed and gardens proved well-nigh worthless since said

fumes first made their appearance. The injuries in said locality are constantly increasing; those for the past year being much greater than ever before.

Deponent has often noted dead and dying timber along the roadside, and the safety of, and passage over, said roads are menaced by the trees which have been killed or injured. Were it not for the fact that along the principal roads the dead and dying timber is watched for and kept cut out, the danger and inconvenience would be much greater, and along the mill and meeting routes and roads seldom used, frequent inconvenience is caused by said roads being blocked, in whole or in part, by the trees which have fallen on or across the same.

The greater number of people in deponent's locality are farmers, dependent upon the products of their farm for their livelihood, and many, like deponent, notwithstanding their crops had already been injured, have replanted for the next crop in hopes that conditions would be better, as without such crops the farmers thereabout would have no income whatsoever. Deponent has now planted and growing wheat and rye upon his farm, but the same has already suffered injurious effects from said fumes, and will, if subjected to the fumes in the future, be greatly injured, if not wholly destroyed. If, however, said crops are not interfered with by said fumes, fair returns may be expected therefrom, notwithstanding the fact that some injury has already been done to same by said sulphur fumes.

M. FARMER.

Sworn to and subscribed before me this day of November, 1905.

J. F. M'NELLY,
Notary Public Fannin County, Ga.

AFFIDAVIT OF HORACE A. FIELD.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared, Horace A. Field, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is 44 years of age, and is a resident of Ellijay, Gilmer County, Georgia. His occupation is that of a lumberman, having had many years' experience in the lumber woods and forests of Pennsylvania and the Adirondack Mountains of New York and elsewhere, and is familiar with timber in its various stages.

During the month of October, 1905, deponent carried his camera with him on an inspection of timber in the timber section north of Ellijay, Georgia, and took the pictures hereto attached, marked IX, X, XI, XII, XIII, XIV, and XV which pictures were taken at the localities hereinafter specified, and disclosing conditions as follows:

The location of view contained in picture No. IX is near the

town of Ellijay, Georgia, on the south side of the Cartecay river, the picture being of a hill-side, facing northward toward the Ducktown furnaces, and not immediately protected from said sulphur fumes by any intervening hills or mountains. As will be seen from the picture, practically all the taller trees have been wholly killed and the smaller trees and underbrush are beginning to suffer. The distance from Ducktown is about thirty miles in direct line.

Picture No. X is of the same locality, and on the opposite side of Cartecay river from that of picture No. IX; the timber in picture No. X, however, being upon the side of the hill opposite to the Ducktown works and protected from the sulphur fumes by intervening barriers, is fairly healthy, and no such conditions there exist as is shown in No. IX.

Picture No. XI is taken within a comparatively short distance of the town of Ellijay, and up a ravine in the line traveled by the fumes from Ducktown. Most of the taller trees, as shown by the picture, are dead or dying, and practically all of the remaining taller timber, as well as a considerable portion of the smaller undergrowth, is injured.

Picture No. XII was taken on lot 171 in the 7th district and 2d section, Gilmer County, on the waters of Rock Creek, same being something over twenty miles from the Ducktown works, and about five miles northeast of the town of Whitepath. This picture shows the destruction of the major portion of all timber in said section, other than the undergrowth, which appears to have been protected to a degree by the surrounding taller trees.

Picture No. XIII was taken on lot 122 in the 7th district, 2d section of Fannin County, Georgia, about the same distance as the preceding picture from Ducktown, and about two miles south of the town of Toccoa. This picture illustrates the death of the major portion of the taller timber in said vicinity.

Picture No. XIV is taken from land lot 120 on the top of Rocky Mountain, about eighteen miles distant from the copper works. In the distance, the sulphurous smoke from the copper

plants is visible, even through the hazy atmosphere. This picture shows the total destruction of the trees on the mountainside, facing the valley running from Ducktown. The smoke was clearly traceable from the furnaces to the highlands and mountains to the eastward, toward which the winds were blowing at the time.

Picture No. XV is also taken from the Rocky Mountain, and is down the valley toward the Ducktown works. Even with a camera wholly unfitted for long distance views, the condition of the timber is apparent. A greater portion of the timber has already been killed, as a close examination of the picture discloses, and that which has not already been killed is badly injured, and is rapidly dying. The mountain from which this picture is taken is nearly 4,000 feet high and commands an unobstructed view towards Ducktown. Deponent's camera could not bring out the destruction of the vegetation toward Ducktown, and the fact that the fields, farms and forests had the appearance of a desert waste, while the territory in the opposite direction, protected from Ducktown by a mountain range, looked fertile and productive. The valley and depression toward Ducktown, as well as the valleys radiating from same, appeared burned, barren and desolate, and wholly unlike the country on the opposite side of Rocky Mountain, which seemed fertile and was more or less green.

HORACE A. FIELD.

Sworn to and subscribed before me, this 23d day of November, 1905.

J. L. MOORE,
Notary Public Gilmer County, Ga.

AFFIDAVIT OF JOHN A. FORTNER.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared John A. Fortner, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, his farm being on the waters of Hothouse Creek.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

When the wind is in the northwest the smoke ascends over on my farm and causes me and family to cough and have severe headache and some times to vomit on the account of smoke and fumes that we inhale in the lungs. There is so much timber killed on my land that it is dangerous to be in the forest in time of wind and the road is often impassable on account of falling timber that is killed by smoke; the sulphur fumes in some way kills the land to some extent so it does not produce as it should.

JOHN A. FORTNER.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVT OF FRED FORRESTER.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Fred Forrester, who, being duly sworn in the above-styled cause, deposes and says :

Deponent is a citizen and resident of Fannin county, Georgia, and has a farm in said county about two and a half miles distant from Mineral Bluff. Since the appearance of the sulphur fumes in said vicinity, a great amount of timber has been destroyed, and crops and gardens generally have failed. Deponent had a very good orchard at his said place, but he has received no fruit therefrom this year; in fact, all the vegetation has been greatly injured or wholly destroyed since the fumes became prevalent in said neighborhood.

FRED FORRESTER.

Sworn to and subscribed before me, this day of November, 1905.

F. M. HARPER, J. P.,
Notary Public Fannin County, Ga.

AFFIDAVIT OF W. H. FOSTER.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Gilmer County.

Personally appeared, W. H. Foster, who, being duly sworn in the above-stated case, deposes and says:

Deponent is a resident of Gilmer county, and has been for twenty years or more, having been sheriff of said county for two terms, that is to say, four years.

Deponent made frequent trips throughout Gilmer county, especially during his term as sheriff, and has done considerable lumber hauling for a number of years. In the course of deponent's travels in and about Gilmer county he paid special attention to the timber, the same being not only of considerable interest to the county, but also a matter of business interest to deponent, through lumber hauling as aforesaid.

Up to the summer of 1902 deponent observed the general healthiness of timber throughout Gilmer county, but that since said time much of the timber has died. This is especially true

of hickory, chestnut and chestnut oak. Deponent heretofore owned land lots Nos. 49 and 60 in the Eleventh District and second section of Gilmer county, between twenty-five and thirty miles from Ducktown, Tennessee.

Deponent has often noticed the odor of sulphur smoke and fumes in said locality, and about the summer of 1903 deponent observed that the hickory, and chestnut trees upon said lots were dying rapidly. When deponent sold lot No. 60 only a few weeks ago, in going over the property deponent failed to see any live hickory or chestnut whatever. All had been killed and the timber generally injured. As before stated deponent has often noticed the smoke and sulphur fumes in said locality and can attribute the death of the trees to no other source. The same conditions as those upon the property owned by him, as to the timber, exists over a considerable portion of said county subject to the sulphur fumes. Deponent has not observed such conditions, however, in that portion of northern Georgia shut off or protected by mountain ranges from the Ducktown Copper Works.

W. H. FOSTER.

Sworn to and subscribed before me this —— day of November, 1905.

E. BUFFINGTON, C. N. P.,
Notary Public Gilmer County, Georgia.

AFFIDAVIT OF J. W. GAREN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared J. W. Garen, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

J. W. GAREN.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF J. H. GIBBS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared J. H. Gibbs, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State

and county, and is a farmer and has a farm located two miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

My garden and truck patches was ruined by smoke and it did not stay on more than two hours. This was in July, 1905. My peas was all ruined and my stubble consisting of rag weeds and cockle-burs and other vegetation of stubble land was killed just as if a big frost had been on it.

his
J. H. X GIBBS.
mark.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF CHAS. E. GILBERTSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Chas. E. Gilbertson, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen in said State and county, and superintendent Blue Ridge Tannery, Mineral Bluff, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

CHAS. E. GILBERTSON.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF W. M. GRANTHAM.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, W. M. Grantham, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and merchant and farmer, residing at Hemp, 3½ miles east of Morganton.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent's corn crop was badly damaged, at least one-quarter. Fodder was a failure, garden vegetables were damaged one-half. Deponent has operated a thresher for several years—threshed almost all over the county this year. The crops of wheat, oats and rye were less than half of previous years (the season for this year was as good as any previous), and the grain was lighter and more chaffy than ever before. In traveling over the county I found that the timber was all being killed and was killed; orchards were almost a total failure. Farming in this county will have to be abandoned unless the sulphur fumes are controlled and not allowed to spread over our country.

W. M. GRANTHAM.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. A. ALLEN, J. P.,
Fannin County, Ga.

AFFIDAVIT OF STEPHEN GRIFFIN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared Stephen Griffin, who, being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and his occupation is that of a farmer; his farm is located one-half mile south of Blue Ridge, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Crops of peas was destroyed in a single night. During the month of July, 1905, deponent's crop of peas was in a flourishing condition, but after a night in which smoke had settled down in said locality and was noticeably strong, was whitened and withered and had the appearance of having suffered a heavy frost, and in consequence of such injury was utterly ruined.

STEPHEN GRIFFIN.

Sworn to and subscribed before me, this 17th day of November, 1905.

WILLIAM BUTT,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF F. M. HARPER.

No. 13. ORIGINAL.

In the Supreme Court of the United States

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, F. M. Harper, who, being duly sworn in the above styled cause, deposes and says:

Deponent is a farmer, property-owner, and citizen of Fannin county, Georgia, and is engaged in farming in said county; deponent's farm being about four miles northwest of the town of Mineral Bluff.

Deponent's property has suffered greatly from the sulphur fumes generated by the copper companies at and near Ducktown, Tennessee. These fumes are constantly in evidence in deponent's locality, and since said fumes have made their appearance all timber upon said deponent's property is either dead or badly injured and in a practically dying condition. Deponent's crops have been well-nigh, if not wholly ruined, his fruit destroyed and the trees in his orchard killed. The injuries during the past year are infinitely worse than those at any time previous. The odor of said smoke is disagreeable—pro-

duces coughing, and is generally unpleasant. During the past year, in the month of July, after a single night of heavy fumes, the garden vegetables, such as beans, potatoes and others, and even rag weeds, would be shriveled and burned. The result was about the same as though a severe frost had fallen and the appearance was almost identical; vegetables and leaves turned white and withered, and the odor of the burnt and blistered vegetables and weeds, especially of the rag weeds, was very strong at said time. Watermelons and pumpkins were wholly ruined.

The timber throughout said locality has been killed with great rapidity. Often the dead trees along the roadside constitute a menace to the passers thereupon. In the locality where all the timber has been killed and the vegetation practically destroyed, the roads wash very badly, there being frequent holes, gulleys and unsafe places occasioned thereby. The fact that there is no vegetation to hold the soil or to restrain the water as it runs down the hill-sides is responsible for this condition and for the exceptional damage to the roads. This is especially true of those roads in the northern part of the county and in the locality of said furnaces.

Deponent is a Road Commissioner of said county, whose duty it is to see to the safety of said roads as well as their condition. The facts heretofore recited add greatly to the expense in the maintenance of said roads, as well as the difficulty of keeping said roads in repair. The conditions are much more difficult and arduous than those existing prior to the extensive operations of the Tennessee and Ducktown Copper Companies.

Deponent has been a resident of said county for forty-eight years, and knows that these conditions did not exist until the appearance of the sulphur fumes generated by the present companies.

F. M. HARPER.

Sworn to and subscribed before me this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

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AFFIDAVIT OF WILLIAM HARPER.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, William Harper, who, being duly sworn in the above-styled cause, desposes and says:

Deponent is a resident, citizen and property-owner of Fannin county, Georgia, wherein deponent has lived practically all of the ninety-four years of his past life.

Up to the time the fumes generated by the Tennessee Copper Company and the Ducktown Sulphur, Copper and Iron Company became prevalent in deponent's locality the land was fertile and productive, and made good returns to the owners thereof; two crops per year were produced, the winter-growing crops consisting mainly of small grain.

Since the sulphur fumes have become frequent in said locality, conditions have changed, and not only has the timber been destroyed, but farms have been almost wholly ruined. Where deponent customarily obtained upon one piece of ground over a thousand bushels of corn per annum, deponent can not now

make twenty per cent. of same, and what corn there is produced is injured and defective, and the fodder from the stalks thereof is largely rotten and almost worthless. The entire neighborhood has suffered in the manner recited, the injury being general and by no means confined to deponent. These injuries never existed until the operations of the Tennessee Copper Company and the Ducktown Company within the past few years. The injuries are increasing each year, and the worth of the farms decreasing in proportion.

If the sulphur gases are produced in the future, as in the past, farming property throughout deponent's neighborhood will be rendered absolutely valueless, as no returns can be obtained from the ground, nor will same have a market value.

WILLIAM HARPER.

Sworn to and subscribed before me this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF J. P. HENSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. P. Henson, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county and is a farmer, and has a farm three miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

his
J. B. X HENSON.
mark.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF S. L. HENSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, S. L. Henson, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm three miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

his
S. L. X HENSON.
mark.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF W. S. HENSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Gilmer County.

Personally appeared, W. S. Henson, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is 38 years old, and has resided in Gilmer county, Georgia, during his entire life. Is a farmer, and has been Road Commissioner for the past two years, and has been road overseer off and on for ten years previous to this.

Picture filed herewith and marked No. 101 was partially on my land, same being original land lot No. 131 and 130 in the 11th district and 2d section of Gilmer County, Ga., which lies some three miles southeast of Ellijay, Georgia. This timber has died in the last two or three years and principally in the last year. As Road Commissioner this past summer and spring I gave the road overseer orders to cut a great deal of this dead timber down to prevent its falling on the public highway which

runs through said lots of land, and much of this timber was cut down by said order or the picture would have shown more dead timber than what it does. Several trees had fallen across and blocked this highway, and complaint had been made in one instance by a party passing along the highway that a tree had just fallen and had nearly caught him as he passed along the public highway.

Deponent has often seen and smelt the sulphurous-laden smoke that often drifts over and settles in this country whenever the atmosphere is about right and the prevailing winds are from the north, or from the direction of Ducktown. Deponent believes that this wholesale destruction of timber is caused by the fumes and gases from the copper furnaces and smelters of the copper plants located at and near Isabella, Polk County, Tennessee. As these fumes have been noticed much more often in the last year or two, during which time the timber has suffered the greatest. Deponent has particularly noticed that the greatest destruction of timber always occurs on the side of the hill or country which is most exposed towards Ducktown, and that sections of country often, where protected by hill or mountain that the timber so protected would show little or no damage.

The above death of timber has occurred only since the fumes from the copper works made their appearance in the community where deponent resides.

W. S. HENSON.

Sworn to and subscribed before me, this the 21st day of November, 1905.

E. BUFFINGTON, C. N. P.,
Notary Public, Gilmer County, Ga.

AFFIDAVIT OF T. G. HUDSON, COMMISSIONER OF AGRICULTURE OF GEORGIA.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
COUNTY OF FULTON.

Now comes T. G. Hudson, who, being duly sworn herein, on oath says:

That he is the Commissioner of Agriculture of the State of Georgia and one of the committee appointed under a resolution of the General Assembly of Georgia to investigate and report upon the damage done within the State of Georgia by sulphur and copper fumes generated by the copper works at and near Ducktown, Tennessee.

Affiant carefully investigated conditions occasioned by the smoke and fumes generated by said copper companies, which investigation disclosed that said smoke, fumes, and gases had done and were doing enormous injury within the State of Georgia. Timber, crops, gardens, and orchards had been and were

being destroyed, and it was clearly apparent that the zone subject to the hurtful influence of such fumes was rapidly, in fact almost daily, being enlarged, and the damage in the locality already subject to the fumes constantly increasing.

The smoke, fumes, and gases causing the damage are originated by the Ducktown Sulphur, Copper and Iron Company and the Tennessee Copper Company, the latter, however, being located much nearer the Georgia line and producing by far the largest amount of copper, causes the larger part of the injury.

The Tennessee Copper Company has recently removed its reducing plant to a point some miles nearer the Georgia line than its former location, and the gases being concentrated and discharged from a tall chimney are carried much farther into Georgia territory than they could have been formerly under the open-heap process of reducing ore.

The Tennessee Copper Company also has in course of erection additional furnaces, which affiant is informed will double the capacity of said works. If such furnaces are permitted to operate, the damage to the State of Georgia and her territory will be greatly increased, and affiant believes more than doubled in amount and territory affected.

Affiant hereto attaches a copy of the report submitted by affiant and his fellow-commissioners, which report affiant avers to be true in substance and in fact.

Land in the State of Georgia since the time the Tennessee Copper Company began its operation has been constantly increasing in value. This is particularly true of farm lands which have increased within the past five years from 50 to 100 per cent., taken as a whole, and in many instances the increase has been much greater. By reason of the greater value of land for agricultural purposes, much wild lands have been improved and placed in cultivation, there being constant decrease in wild lands and increase in the amount of land improved for agricultural purposes. This is not true, however, in the case of Murray county, within a radius affected by the sulphur fumes. Instead of the amount of wild land within said county decreasing, it has steadily increased for several years.

Affiant can see no reason for this abandonment of improved lands, except the fact that the sulphur fumes render same either unfit for cultivation, or so unproductive that the time and labor expended thereon would bring no returns.

The conditions as to the increase of wild land in Gilmer county is by no means so marked as in Murray, the latter county being much closer to the copper company plants, but if the fumes continue, affiant believes that the conditions in Murray county will soon be almost parallel with those of Fannin county.

T. G. HUDSON.

Sworn to and subscribed before me, this 20th day of November, 1905.

W. H. HARRISON,
Notary Public Fulton County, Georgia.

Atlanta, Ga., August 30, 1905.

To His Excellency J. M. Terrell, Governor of Georgia.

SIR: We, the commission appointed under and acting by authority of a joint resolution of the General Assembly of this State at its last session, and approved by Your Excellency, beg to report as follows:

Said resolution provided that this commission promptly investigate the damage done and now being done to vegetation, timber, fruit, and the farming interests of the northern part of this State by the gases, fumes and smoke being generated by the copper plants at and near Isabella, Polk County, Tennessee, and report to Your Excellency the conditions found there. Pursuant to the above, this commission did visit the above-named section on the 28th and 29th of August and inspected a consid-

erable portion of said territory. We found conditions there alarming in the extreme, and we haven't words at our command to impress on Your Excellency the instant, urgent, and imperative need of immediate action for relief, if that part of our State is to be saved to its present owners and our commonwealth.

The signal destruction to young and old timber and almost all vegetation was appalling in the extreme, and impressed all as we journeyed through the stricken district. From the high ridges, where a view could be gotten of the landscape and surrounding country, much of the foliage was brown and seared and had much the appearance of having been visited by fire or heavy frost, the leaves being more or less brown or seared. In the woods the leaves are falling, or have fallen, and the ground is covered thick with withered and dead leaves, as one would expect to find in late November did healthy conditions prevail. Many of the crops we found on the land were more or less affected; corn, field peas, potatoes, and many hardy weeds showed only too plainly the effects of the action of the fumes. It is our unanimous opinion that the new process as adopted by the Tennessee Copper Company is proving and has proven far more injurious to vegetation, fruit, farming, and the timber interests of this portion of our State than the old process ever was. This is clearly proven by the timber, much of which put out in full leaf in the Spring, and this has been killed since. When the open-roast heaps were used under the old process, they were located near Ducktown, and the sulphurous gases were largely liberated there. Since the adoption of the new method by the Tennessee Copper Company they have located their furnaces for the smelting of the green sulphur ores at Isabella, some four miles nearer the territory of this State.

The present furnaces, with their forced draft and very high heat, drive the fumes and gases from the sulphur ore high into the air, so that the prevailing winds carry and drift them in whichever direction they may be blowing at the time. These concentrated fumes leave the furnace stack in the form of sulphur dioxid or anhydrous sulphurous oxid. This is carried

by the currents of air and the wind to a greater or less distance, according to the velocity of the wind or the humidity or lightness of the air, and is turned into deadly sulphurous acid whenever it happens to come in contact with moisture in the air, and is thus precipitated in this form to the earth, settling on the soil and all growing vegetation.

We find the effects of this highly corrosive and dangerous compound on the dead foliage, and it is burned, blistered and seared as if by extreme heat or heavy frost. As these smelters are now conducted, they are daily and nightly handling hundreds of tons of these ores, containing a very high per cent. of sulphur; and as each pound of sulphur burned produces two pounds of sulphur dioxid, it is very easy to see the magnitude of this evil that is hourly and daily being turned loose in the surrounding country, to blight and kill all growing crops and vegetation.

It has been satisfactorily proven by the Bureau of Chemistry of the United States Department of Agriculture that one part of sulphur dioxid mixed with one hundred thousand parts of air does great damage to vegetation, and also that one part of sulphur dioxid mixed with one million parts of air seriously injures vegetation, if it be exposed for any length of time. This has been thoroughly demonstrated by other chemists and biologists who have worked on the subject, among them being A. Stockhardt and A. Wieler.

The citizens and farmers of the stricken district met us everywhere on our way and begged and implored us to use our effort for their immediate relief and related instance after instance of the loss of their crops. Many expressed themselves as being fully determined to abandon their further attempts to grow crops on their lands until the nuisance be abated. The counties now affected are Fannin, Gilmer, Union, Murray, and Towns, in order named, and we have been reliably informed that the damage to timber has been plainly traced into Rabun county, some seventy miles distant from the smelters.

The section being affected is a very important one to the whole country, it being a great watershed, where many of the

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important rivers of the South have their source; and it lies in the heart of the proposed Appalachian forest reserve. It is a section of country where nature has been more lavish in her gifts; where grow the giant poplar, the sturdy and massive oaks, the stately and majestic white pine, the lacy hemlock, the chestnut, hickory, buckeye, and numerous other forest giants, fringed with innumerable other trees and bushes, ferns and mosses, all making a great sponge, or an ideal nature's fountain. Here are absorbed the rains and showers that fall, and are held in this great natural reservoir to gently percolate through all, in the form of numerous clear and cold springs, which unite in little rills and rivulets. These form brooks, which dash and flow over rocks and boulders on their way to form the creeks, and they in turn the rivers. The banks of these streams are covered with laurel and rhododendron, mountain azaleas, holly, calicanthus, dogwood, and other flowering shrubs. These beautiful streams, cool, clear, and limpid, coming direct from nature's fount, are purity itself. Herein sport the lovely brook trout; and, in streams that have been stocked by the United States Government, the Rocky Mountain or rainbow trout are thriving and increasing in great numbers. It is this fair country on which the hand of this awful scourge is laid so heavily, and it will be not only the inhabitants and owners of these lands who will suffer, but all the country to which its streams are tributary and through which they pass on their way to the ocean. Since these poisonous gases kill not only the old and matured timbers, but all the vegetation on the ground, nature's fount will be thereby ruined. The sun will get in and parch and dry up the hungry earth so that it will become baked and seared. The water will run off as fast as it falls, producing periods of tremendous freshets and floods, followed by long and far-reaching droughts; for the rain falling then, not held back as formerly, when it slowly made its way through the thick mass of foliage and rich, spongy earth, will pass off like a cloudburst down the denuded and parched courses. Until recently the streams of this watershed have had the most even flow of any in the United States, which the complete destruction

of these forests will disturb entirely, besides rendering useless all the valuable water power operating cotton mills and other industries on the rivers below.

This commission advised the attorneys of the Tennessee Copper Company of their intended visit to their section and works, and did visit their offices at Isabella and asked for any suggestion that the company might have to make as to provision that they were making or had in view to relieve the situation, but they got no definite information from their manager, Mr. Adams, whom we saw there. We found the Tennessee Copper Company are using all possible energy to push to early completion four new furnaces to smelt green ore at Isabella, and since they are now using only three furnaces, it is plain to see what will be the result when these four additional furnaces are blown in, on green sulphur ore, with no provision whatever that we could learn of to care for these increased fumes. In the words of the previous commission who investigated this nuisance and were appointed by a former General Assembly and approved by your Excellency, we beg to repeat, "in our opinion, it being better that this entire industry should be completely annihilated than that the present intolerable condition should continue."

Wherefore, we respectfully recommend that your Excellency, through the Attorney-General, and in the name of the State, do immediately begin proper legal proceedings to abate said nuisance and to arrest the damage now being done to the property of the citizens of this commonwealth.

A number of photographs representing certain scenes in the district described are herewith submitted.

Respectfully submitted.

(Signed) T. G. HUDSON,
Commissioner of Agriculture.
W. S. YEATES,
State Geologist.
JNO. M. M'CANDLESS,
State Chemist.
WILL H. SHIPPEN.
J. R. CHASTAIN.

AFFIDAVIT OF W. T. HUNTER.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, W. T. Hunter, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm located four miles from Ducktown.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

W. T. HUNTER.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF J. N. HYDE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared J. N. Hyde, who being duly sworn in the above-styled and numbered cause, deposes and says:

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Deponent is a resident citizen and land owner in said State and county, and is a Road Commissioner of said county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

I find that the roads are much more trouble to keep up than formerly, that there is dead timber along the road to cut to keep up, and that the road overseer has to keep a man to cut same off of right of way of roads.

J. N. HYDE.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF W. C. HYDE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared W. C. Hyde, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer and has a farm located five miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

I had a good bean crop ruined in one day during the month of July, 1905. My potatoes were injured, my garden also injured. This was in the month of July, 1905. I have often seen the public road obstructed by falling timber. I never saw the public road obstructed this way before the Ducktown smoke came here. I do not consider the public roads safe for travel after night without the road overseer has a special man to look after the dead timber.

W. C. HYDE.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF D. T. JARRETT.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared, D. T. Jarrett, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident of Gilmer county, Georgia, and has been since the year 1861. Deponent resides in the tenth District, second section, Gilmer county, Georgia, being in the northern central portion of said county.

In deponent's section of Gilmer county, the sulphur fumes generated by the copper works near Ducktown and Isabella, Tennessee, are not only apparent by reason of their odor, but are at times easily distinguished in the atmosphere, the smoke and fumes at times being strong enough to have the appearance of a haze.

Throughout deponent's section of country a large amount of the hickory, chestnut oak, white pine and chestnut have been killed and the timber generally injured. The orchards gener-

ally have failed and the fruit trees have suffered considerable damage. The damage during 1905 was considerably greater than that during the year previous. Should the destruction continue in the future in proportion to what it has been in the past the timber and fruit of said locality will soon be completely destroyed.

D. T. JARRETT.

Sworn to and subscribed before me this 10th day of November, 1905.

E. BUFFINGTON, C. N. P.,
Notary Public of Gilmer County, Georgia.

AFFIDAVIT OF L. V. KING.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared L. V. King, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and farmer, residing two miles north of Morganton, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent resides near T. J. Wilson, and knows of the facts stated in his affidavit, the same being read to deponent. During the month of June, 1905, deponent left home at two o'clock in the morning. The smoke and fumes were very strong and continued throughout the day. The day following peas, corn and potatoes were badly injured. Not more than a half crop was gathered. The season was good. Fodder was a failure; had appearance after the fumes came down of having been through a severe frost. I wagoned considerably during Winter and Spring. The roads were washed out in holes and gullies, more especially in the direction of Ducktown. The roads in the north part of the country are generally in this condition. Dead trees have fallen in the road and deponent was compelled to leave the public road twice on that account. Timber along the roads are dead and dying.

L. V. KING.

Sworn to and subscribed before me, this 17th day of November, 1905.

G. D. NIXON, N. P., J. P.
Fannin County, Georgia.

AFFIDAVIT OF W. P. LEDFORD.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared W. P. Ledford, who being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm 3½ miles from Ducktown.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

I had a fine orchard and it is now ruined. My timber is all ruined. I can not raise any potatoes or any small grain, as the smoke kills it all, and can not raise peas or beans.

W. P. LEDFORD.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF W. B. LOVINGOOD.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared W. B. Lovingood, who being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, farm on Toccoa river.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Garden partly killed and injured in June and July by said fumes in year 1905. Said garden was in a flourishing condition, but after a night in which smoke settled down in said locality and was noticeably strong, said garden was whitened and withered and had the appearance of having suffered a heavy frost and in consequence of such injury the garden was almost ruined. Could taste fumes on beans when prepared for table use; tomatoes utterly ruined; corn crop badly injured; killed the fodder, thereby injuring the ears of corn, making corn very light and chaffy.

W. B. LOVINGOOD.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. B. KINCAID,
Clerk S. C. Fannin County, Georgia.

AFFIDAVIT OF W. M. MADDERSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared W. M. Madderson, who being duly sworn in the above styled and numbered cause, deposes and says:

Deponent is a resident citizen of Tennessee and land owner in said State of Georgia and county, and farmer, and has a farm located seven miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

The deponent is a citizen of Tennessee, but has farm in Fannin county, Georgia.

his
W. M. X MADDERSON.
mark.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF R. L. MEDARIS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared R. L. Medaris, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and farmer residing three miles east of Morganton, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent's timber was badly damaged and killed by the fumes from the Ducktown copper mines, that he has traveled quite a lot throughout the country and finds the timber killed and dying more or less everywhere. The roads are washed out in gullies and holes in portions of the county; out more in the northern portion, nearer the mines where the timber is totally killed. Deponent's crop was almost a failure, corn was badly damaged, fodder was almost a total failure, besides other products were considerably damaged, about one-quarter to one-half crop being raised. The season was far better than last year. The fumes were worse this year than ever before.

R. L. MEDARIS.

Sworn to and subscribed before me, this 17th day of November, 1905.

G. D. NIXON, N. P., J. P.,
Fannin County, Georgia.

AFFIDAVIT OF JEFF. T. MEDEARIS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Jeff T. Medearis, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and a resident of Hemp, Ga., three miles east of Morganton, and a farmer.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent says his timber is killed and dying. That his crop of corn and small grain was damaged almost totally. Garden truck such as beans and cabbage, tomatoes, etc., was almost a total failure. Deponent's orchard is almost killed. If the fumes continue another year the orchard will be totally lost. If said fumes are not stopped farming in this section will necessarily have to be abandoned. Deponent has quit trying to raise wheat and oats on account of the fumes.

J. T. MEDEARIS.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN, J. P.,
Fannin County, Georgia.

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AFFIDAVIIT OF A. F. MULL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, A. F. Mull, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and has a farm located about two and a half miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops.

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

A. F. MULL.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF BRUCE MULL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Bruce Mull, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen in said State and county, and is a farmer.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

I am a road overseer in said county. I have to keep a constant lookout for dead timber and have had a lot cut out, and have had to go off the road limit to cut some.

BRUCE MULL.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF P. C. MULL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared P. C. Mull, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer and has a farm located 1½ miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

P. C. MULL.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF N. S. MULL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, N. S. Mull, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm located two miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

N. S. MULL.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF W. D. MULL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, W. D. Mull, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a farmer in Fannin County, Georgia, and a citizen, resident and land owner of said county, deponent's farm being about six miles from the town of Blue Ridge, in said county.

In deponent's locality the sulphur fumes generated by the Ducktown Copper Companies are often noticeable and strong. Up to the time said fumes became prevalent in deponent's locality deponent had excellent timber upon his property, but since the appearance of said fumes, practically all of deponent's timber has been destroyed. A considerable amount was killed during the past year, in fact, practically all that had not been previously killed, and during the months of June or July of the

past summer the dead and fallen leaves were as thick as in the fall, and the woods at any time in the mid-summer could have been burned. The timber along the road-side is often killed and injured, and but for the fact that the dead and dying timber is frequently cut and removed, the roads would be rendered impassable. Even with every precaution, the roads are frequently rendered unsafe, as well as inconvenient, by the timber which has been killed in close proximity thereto.

W. D. MULL.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF JOHN I. NEWTON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, John I. Newton, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

JOHN I. NEWTON.

Sworn to and subscribed before me, this 20th day of November, 1905.

J. F. M'NELLEY,
Notary Public Fannin County, Ga.

AFFIDAVIT OF E. H. NEWTON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, E. H. Newton, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident, citizen and land-owner of Fannin county, Georgia, residing at Mineral Bluff, and in and around the locality of deponent's home the sulphur fumes generated by the Ducktown Copper Companies are often in evidence.

Since said fumes became apparent throughout the country much timber has died and crops generally have failed, and often the leaves upon the trees not already killed are scorched and deadened by mid-summer and fall, and are as thick upon the ground as in the late fall. The injury continues to grow with each succeeding year, that of 1905 being much greater than at any time previous.

E. H. NEWTON.

Sworn to and subscribed before me this 18th day of November, 1905.

J. F. M'NELLY,
Notary Public Fannin County, Ga.

AFFIDAVIT OF R. W. NICHOLS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, R. W. Nichols, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a merchant, four miles east of Morganton, Georgia.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

R. W. NICHOLS.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN, J. P.
Fannin County, Ga.

AFFIDAVIT OF G. D. NIXON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, G. D. Nixon, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a farmer, citizen and property owner, living upon Star Creek, a tributary of the Toccoa River, about two and one-half miles west of the town of Morganton, Fannin county, Georgia.

In deponent's neighborhood the injury to timber within the last two years has been very great and large quantities have been killed. The fumes from the copper works near Ducktown are often present in said locality and discernable not only by their odor, which is by no means pleasant, but to the eye as well, the smoke and fumes producing a haze or cloud.

Since the sulphur fumes began to settle in the locality of the Star Creek crops, crops have been failures, orchards non-productive, and gardens of little use; corn would be badly injured before the fodder could mature, and frequently after the sulphur fumes had been specially noticeable, which was the case when the wind was in the north, the blades upon the corn would be turned white as if it had suffered a frost. During the past year this was the case at least a month before time for fodder to mature, and it withered long before the first frost. The injury to small grain is very great; winter growing crops (small grain, that is, wheat, rye, barley and the like) are heavy sufferers. The damage this year was infinitely greater than that of the year previous.

G. D. NIXON.

Sworn to and subscribed before me this day of November, 1905.

J. W. ALLEN, J. P.,
Fannin County, Ga.

AFFIDAVIT OF G. D. NIXON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, G. D. Nixon, who is a farmer, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and who is a farmer, his farm being located eight miles east of Blue Ridge, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent is a road overseer of said county, whose duty it is as such to see to the safety and well-keeping of the public roads within his territory. The timber destroyed as hereto set forth often stands along the roadside and menaces the safety of and free passage over said roads, and it is necessary to have road hands or other persons continually watching for and cutting out such dead and dying timber to keep the road open, and prevent injury to persons passing thereon.

G. D. NIXON.

Sworn to and subscribed before me, this 20th day of November, 1905.

J. R. CHASTAIN,

Notary Public Fannin County, Ga.

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AFFIDAVIT OF W. I. PENLAND.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, W. I. Penland, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a citizen and resident of Fannin county, Georgia, and a farmer and land owner therein. Deponent's farm is about 3½ miles from the town of Morganton, Georgia, and in the locality of deponent's farm a great amount of timber has been killed, crops have failed and gardens are poor since the appearance of the fumes from the Ducktown Copper Company's plants in said locality. Fruit in said locality has been almost totally destroyed, and what little the orchards produced was of an inferior quality and much injured.

Much timber is killed along the roadways, and the dead and dying trees frequently render passage over the roads unsafe and inconvenient. Such trees have to be cut away from the

roadside, in order to keep the roads open, and lessen the danger to travelers thereon.

W. I. PENLAND.

Sworn to and subscribed before me this 17th day of November, 1905.

JOHN F. M'NELLY,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF G. W. PHILLIPS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared, G. W. Phillips, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and merchant and farmer, lives on Fighting Town Creek, ten miles west of Blue Ridge, and five miles south of Ducktown mines.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

And that the damage has been a great deal worse in this present year than it ever had before.

GEO. W. PHILLIPS.

Sworn to and subscribed before me, this 21st day of November, 1905.

W. J. MATHEWS, J. P.
Fannin County, Ga.

AFFIDAVIT OF J. C. POWELL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. C. Powell, who, being duly sworn in the above-styled cause, on oath, says:

Deponent is a resident of Fannin County, Georgia, and until a few months ago was engaged in merchandising in the town of Morganton, said county, where deponent still resides.

The sulphur fumes generated by the copper companies near Ducktown, Tennessee, are frequently in evidence in the locality where deponent resides. Not only is the presence of said fumes made known by their offensive odors, but often are so thick that they produce a hazy appearance in the atmosphere.

Since said fumes have become noticeable, very large quantities of timber have died, orchards formerly productive have ceased to bear, crops have suffered and gardens have failed. This deponent knows both from experience and observation, as

deponent's timber, crops and garden have been among those to suffer from said sulphur fumes.

J. C. POWELL.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN,
Notary Public Fannin County, Ga.

AFFIDAVIT OF SIDNEY L. RICHARDS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Sidney L. Richards, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and County, and farmer resident of Hemp, three miles east of Morganton.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent's corn crop was damaged and small grain was almost a failure. That produced was light and chaffy. Fodder was a total failure, caused from the sulphur fumes from the mines at Ducktown. The apple and peach crop was also a failure in my section of the country. The season this year was better than that of last year. Timber is dying badly in my section, and if the fumes are permitted and continue next year, as this, almost all the timber will be killed. Peas and potatoes and cabbage was a failure, turnips and other garden vegetables were a failure. The fumes were worse this year than ever before.

S. L. RICHARDS.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN, J. P.
Fannin County, Ga.

AFFIDAVIT OF W. E. ROGERS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared W. E. Rogers, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a farmer living in Fannin county, Georgia, between the towns of Blue Ridge and Morganton, and within the territory subjected to the sulphur fumes generated by the copper companies near Ducktown, Tennesssee.

A large amount of deponent's timber has been killed, and some crops have even been destroyed in the short space of a single night. Within the past season deponent had five acres planted in melons, which for a time appeared to flourish. One Monday night (the exact date deponent does not remember) the sulphur fumes were especially strong, and on Tuesday the leaves upon deponent's melons vines were dead, and immediately afterwards the vines died and the crop was wholly destroyed.

If the injury from the fumes continue to progress, it will be

but a short time before deponent's timber will be all destroyed and his cleared lands rendered unfit for farming purposes.

W. E. ROGERS.

Sworn to and subscribed before me, this day of November, 1905.

WILLIAM BUTT,
Notary Public Fannin County, Ga.

AFFIDAVIT OF G. ROSS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared G. Ross, who being duly sworn in the above-styled and numbered cause, deposes and says:

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Deponent is a resident citizen and land owner in said State and county, and is a farmer and has a farm located 2½ miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

G. ROSS.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF J. H. ROSS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. H. Ross, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm located half a mile from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

his
J. H. X ROSS.
mark.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF ABNER SEABOLT.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Thomas Seabolt, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and resident of Morganton and a farmer.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Deponent says his cabbage, corn and fodder were ruined by the sulphur fumes; that his timber is dying from the effects of the fumes. Unless said fumes are stopped farming in this section will have to be abandoned, as they can not make a living out of it. Last year I had a fine garden; this year I did not make anything scarcely, although the season was better than last year. Deponent has often seen and smelt the fumes from Ducktown mines; has seen smoke so thick at his home he could scarcely see any distance. He is well acquainted with the fumes, having worked at Ducktown in the mines.

his
THOMAS X SEABOLT.
mark.

Sworn to and subscribed before me, this 17th day of November, 1905.

J. W. ALLEN, J. P.,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF FRANK E. SHIPPEN, LUMBERMAN.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared, Frank E. Shippen, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is Secretary and Superintendent of the Shippen Bros. Lumber Company, a corporation of the State of Georgia, which company is a successor of Shippen Bros., and also of the Evans Land and Lumber Company.

The main plant of said Shippen Bros. Lumber Company is located at Ellijay, Georgia, and its timber lands in Gilmer, Murray, Fannin, Union and Towns counties, Georgia, the major portion being in the three first named counties.

Deponent has been engaged in the lumber business for sixteen years, and has been located in Gilmer county, Georgia, for eight years, coming to said locality as a member of the firm of Shippen Bros.

Shippen Bros. Lumber Co. is the owner in fee of 65,000 acres

of land and 33,000 acres of timber in the counties of Murray, Gilmer, Fannin, Union and Towns, 12,000 acres of the land owned in fee being located in the two last named counties, and the remainder in Gilmer, Murray and Fannin counties.

There has been expended in the plant, machinery and sawmills owned by said company the sum of $143,000.00, and said company owns timber land and timber of the value of $600,000.00, a total in the excess of three-quarters of a million dollars.

Shippen Bros. Lumber Company is employing approximately two hundred and eighty-five men, and has a pay-roll of between nine and ten thousand dollars per month. There are at present 108 teams of horses, mules and oxen employed in hauling timber for the said firm.

Deponent has personally inspected much of the forests owned by said company. Up to about three years ago the forests owned by said company were apparently healthy and the trees normal, but during the latter part of 1902 and the beginning of 1903 an unhealthy condition was becoming apparent in certain localities near the Ducktown territory and along water courses radiating therefrom. This was especially true in the case of hickory, white pine, chestnut and chestnut oak. Since said time the unhealthy condition has spread rapidly and a large amount of timber has died. Frequent inspections have been made, which have disclosed the fact that all timber within the range of the sulphurous fumes of the Ducktown copper companies is rapidly being killed by such fumes. A considerable amount of the timber belonging to said lumber company has already been killed or injured. Nearly all of its timber is within the hurtful influence of said fumes, or will shortly be if the gases produced in the future as it is at present. The territory subject to such fumes being daily enlarged. In fact, both the damage being wrought and the scope of said harmful influence of the fumes is growing and will continue to grow with the continued production of said gases.

Upon the property of Shippen Bros. Lumber Co. alone the sulphur fumes have killed more than $75,000.00 worth of tim-

ber, and has injured a large amount in addition, which damage and injury is being added to daily by the continued operation of said works. So rapidly is the timber being destroyed that should the injury keep pace with that done during the past two years, but a short time will be required to destroy practically the entire timber interest of said lumber company, and drive it out of business. Should new works at the copper plants be operated, doubling the capacity for producing said harmful gases, the result would be that the damage and ruin would be more quickly wrought and the utter destruction of the property of Shippen Bros. Lumber Co. much more speedily accomplished. Not only will the timber of said company be destroyed, but its plant will be rendered well-nigh valueless by reason of the failure of material to supply the same and consequently its various employees will be thrown out of their employment.

Under normal conditions the timber interest owned by said company is ample to afford a continuous supply of lumber for said company. Only mature timber is cut, that is to say, timber fourteen or more inches in diameter. The forests are not destroyed by cutting of such timber, but, on the contrary, where this method is followed new crops of timber may be had from time to time, the young timber growing much more rapidly after the old timber is cut away. The sulphur fumes, however, not only destroy the mature timber, but kills the young as well, and make re-forestation impossible. Under existing conditions and with the continued productions of said sulphur fumes, the greater portion of Fannin, Gilmer and northeastern part of Murray counties will be wholly denuded of forest and the lumbering industries in such localities utterly destroyed.

FRANK E. SHIPPEN.

Sworn to and subscribed before me this 10th day of November, 1905.

E. BUFFINGTON,

Notary Public of Gilmer County, Georgia.

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AFFIDAVIT OF L. C. SMITH.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared L. C. Smith, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and his occupation that of a farmer, his farm located five miles east from Blue Ridge, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Garden was killed by said fumes in a single night. During the month of July or August, 1905, deponent's garden was in a flourishing condition, but after a night in which smoke settled down in said locality and was noticeably strong, the garden was whitened and withered and had the appearance of having suffered a heavy frost, and, in consequence of such injury, most everything in said garden was utterly destroyed.

L. C. SMITH.

Sworn to and subscribed before me, this 18th day of November, 1905.

WILLIAM BUTT,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF J. P. STYLES.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared, J. P. Styles, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and a farmer, his farm being located on waters of Fighting Town Creek, about eight miles west of Blue Ridge, and five miles south of Ducktown mines.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides. crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

J. P. STYLES.

Sworn to and subscribed before me, this 21st day of November, 1905.

W. J. MATTHEWS, J. P.
Fannin County, Ga.

AFFIDAVIT OF E. H. THOMAS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared E. H. Thomas, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and his occupation is that of a farmer, his farm is located four miles west of Blue Ridge, Ga., on the waters of Sugar Creek.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Crop of Irish potatoes was killed by said fumes in a single night during the month of August, 1905. Deponent's crop of Irish potatoes was in a flourishing condition and were in bloom, but after a night in which the smoke settled down in said locality and was noticeably strong, the crop of Irish potatoes were whitened and withered and had the appearance of having suffered a heavy frost and in consequenceo of such injuries were utterly ruined.

E. H. THOMAS.

Sworn to and subscribed before me, this 18th day of November, 1905.

WILLIAM BUTT,

Notary Public Fannin County, Georgia.

AFFIDAVIT OF C. J. TRAMMELL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared C. J. Trammell, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and his occupation is that of a farmer and a saw mill man, his farm is located two miles south of Blue Ridge, Ga., on the waters of Cherry Log.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguish-

able by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Garden was killed by said fumes in a single night during the month of August, 1905. Deponent's garden having been in a flourishing condition, but after a night in which smoke had settled down in said locality and was noticeably strong, the said garden was whitened and withered and had the appearance of having suffered a heavy frost and in consequence of such injury was utterly ruined. Deponent's crop of corn and rye was injured fully one-half during the year 1905. Fodder was burned up by the fumes and the corn was withered.

C. J. TRAMMELL.

Sworn to and subscribed before me, this 18th day of November, 1905.

WILLIAM BUTT,
Notary Public Fannin County, Georgia.

AFFIDAVIT OF J. H. TWIGGS.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared J. H. Twiggs, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and a farmer; resides seven miles from Blue Ridge on Fighting Town Creek.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides. crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops,

orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

J. H. TWIGGS.

Sworn to and subscribed before me, this 21st day of November, 1905.

W. J. MATHEWS, J. P.,
Fannin County, Ga.

AFFIDAVIT OF JOSEPH P. VESTEL.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared, Joseph P. Vestel, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a sawmill man and farmer. Has lands all located in said county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides. crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

That deponent owns about five thousand acres of land in said county, and that the damage seems to get worse every year, and deponent lives about three miles from the furnaces of the Tennessee Copper Co. furnaces.

J. P. VESTEL.

Sworn to and subscribed before me, this 21st day of November, 1905.

W. J. MATHEWS, J. P.
Fannin County, Ga.

AFFIDAVIT OF E. W. WILSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared E. W. Wilson, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen in said State and county, and is a road overseer in said county.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

I have to keep a constant lookout for dead timber and have cut a lot and have to go outside of road, leave it and cut timber. The end of my road nearest Ducktown washes much more than it did some years ago when there was plenty of timber on said road. The smoke has been so strong at my residence, six miles from Ducktown, that it has given me severe coughing spells.

E. W. WILSON.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,

Notary Public Fannin County, Georgia.

AFFIDAVIT OF THOMAS J. WILSON.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Thomas J. Wilson, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a citizen and resident of Fannin county, Georgia, in which county he has lived for forty-nine years, and is engaged in farming seven miles north of the town of Blue Ridge.

Of recent years gases and fumes generated by the copper companies at and near Ducktown and McCays, Tennessee, have made their appearance in deponent's locality. These fumes are often strong, producing coughing and difficult breathing; they often settle down in the form of a haze or mist, and at such times the vegetation suffers greatly, in fact, gardens are bitten down by said fumes as though by a heavy frost—crops are injured, and melons and pumpkins and other farm products wholly destroyed. The damage during the past year has been greater than ever before.

The section in which deponent resides is a good farming country, and has heretofore, and until the presence of said sulphur fumes, produced good crops. Since the appearance of said sulphur fumes the crops have suffered more each year. Among the products of said locality are wheat, rye and the usual small grain which grows throughout the winter and spring. These crops already show damage from the sulphur fumes, and if the same are produced throughout the winter, such crops will be well-nigh, if not wholly, total failures. If still greater amounts of sulphur be produced, practically nothing at all in the way of vegetable life can be maintained within said locality.

Deponent is a Road Commissioner of said county, in which he has lived for forty-nine years. The safety of the roads and free passage thereover is only maintained by the constant watching for and cutting out the timber killed by the sulphur fumes. This is only done upon the main roads, as the county has not sufficient hands to cut away the timber upon the meeting or mill roads, or roads other than the main public thoroughfares.

As a result of the death of the vegetation, the roads are frequently injured, holes and gulleys, and well-nigh impassable washouts being made therein by reason of the fact that the hill and mountain sides are bare, there being no vegetation to restrain or take up the water precipitated thereon, the same running off as rapidly as it falls, and causing freshets and flooding of creeks, gullies and branches in said locality.

Deponent fully believes that if the smoke and fumes continue even for a limited time longer the property in said region will be rendered well-nigh valueless, as it is suitable for nothing except for farming or forestry purposes, and said fumes make both of these impossible.

THOS. J. WILSON.

Sworn to an subscribed before me this day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF L. A. WINKLER.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, L. A. Winkler, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, and has a farm four miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

his
L. A. X WINKLER.
mark.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF JOHN WISE.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, John Wise, who, being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, being located about twelve miles east of Blue Ridge, and twenty-two miles southeast of Isabella, Tenn.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

The smoke is injurious to the vegetation generally; fodder was rotten three weeks before ripe. Fruit crops are almost a failure, and I have seen the timber killed in the months of July and August twenty-two or twenty-three miles east of Isabella. Wheat crop is almost a failure, and I have seen the bean and pea vines killed by said sulphur fumes, and it is injurious to the health of the people.

J. C. WISE.

Sworn to and subscribed before me, this 20th day of November, 1905.

R. L. WEAVER,
Notary Public Fannin County, Ga.

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AFFIDAVIT OF J. M. WITHROW.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, J. M. Withrow, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a resident of the State of North Carolina, just over the Georgia line, and has a farm adjoining his place of residence of some six hundred (600) acres on the Georgia side in Fannin county. Deponent has resided in said locality since 1846.

In the neighborhood of deponent's residence and said farm the fumes generated by the copper companies in the neighborhood of Ducktown, Tennessee, are often apparent, both by their odor as well as to the eye, said fumes frequently occasioning a haze in the atmosphere. Since the appearance of said fumes in the neighborhood, a large amount of timber has been utterly destroyed, the trees dying more rapidly each year. Crops and gardens have failed and orchards have been greatly injured. The winter growing crops, such as wheat, rye and the like, suffer

great injury. The fumes from said copper plants are rapidly rendering the farming interest in said neighborhood well-nigh valueless, and if same are to be continued, farming will have to cease, by reason of the injury to the crops.

J. M. WITHROW.

Sworn to and subscribed before me this day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF W. J. WITT.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, W. J. Witt, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer and has a farm 2½ miles from Mineral Bluff.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

W. J. WITT.

Sworn to and subscribed before me, this 18th day of November, 1905.

FRED FORRESTER,
Notary Public Fannin County, Ga.

AFFIDAVIT OF RICHARD WOLFORK.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared, Richard Wolfork, who, being duly sworn in the above-styled cause, deposes and says:

Deponent is a farmer, and also a mail contractor and rider from Hothouse to Mineral Bluff, in said county, deponent's farm being located a short distance from Hothouse post-office.

Not only in the immediate locality of deponent's farm, but often upon the roads between Hothouse and Mineral Bluff and elsewhere are the fumes generated by the copper companies at and near Ducktown, Tennessee, both strong and disagreeable.

Since said fumes became prevalent in said locality, a great amount of timber has been killed, as well as many trees along the roadsides. The top of the trees usually die first, the injury gradually extending towards the roots, and frequently said trees break about half way from the top and fall upon, or across the

roadsides. They are often heavy enough to kill a man or horse, or both, should they strike them in falling. The roads are rendered often unsafe by the dead and dying timber, and are sometimes blocked or interfered with by fallen trees. The conditions would be still more dangerous, but for the fact that in many localities where the destruction of timber is greatest, the roadsides are watched for dead or dying trees, and the same are cut out in order to preserve the safety of, and passage over the roads.

In localities where all the timber has been destroyed as well as much vegetation, the lands wash badly. This is particularly true in the hilly portions and other than the valleys. A considerable portion of said country is steep and sloping. There being nothing to retain or obstruct the water, it runs off almost as rapidly as the same falls upon the ground, and the roads especially suffer from this condition, and are badly washed and frequently rendered dangerous in consequence thereof. In addition, the roads require infinitely greater care and attention, and are much more trouble and expense to keep in repair than roads in localities not subject to such conditions.

Throughout deponent's locality a crop of small grain is raised by a majority of the farmers yearly, that is, wheat, oats, rye, barley, or other winter-growing crops, but since the appearance of said fumes such crops have been unproductive. Deponent has now growing upon his place, wheat and rye, but the same already shows injuries of the sulphur fumes, and if said fumes continue as they are at present, said crop will be badly injured, if not wholly destroyed.

RICHARD WOLFORK.

Sworn to and subscribed before me this —— day of November, 1905.

J. F. M'NELLY,

Notary Public Fannin County, Georgia.

AFFIDAVIT OF R. W. WOODY.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared R. W. Woody, who being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident citizen and land owner in said State and county, and is a farmer, his farm located on the waters of Noontootla, twenty miles south of Blue Ridge, Ga.

During the past two or three years great quantities of timber have been killed within the locality in which deponent resides, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the copper plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of a haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponent resides.

Crop of Irish potatoes was killed in a single night during the month of June. Said crop was in a flourishing condition, but the night in which smoke settled down on said locality, and was noticeably strong. Said Irish potatoes withered and had the appearance of having suffered a heavy frost, and in consequence were utterly ruined.

R. W. WOODY.

Sworn to and subscribed before me, this 17th day of November, 1905.

WILLIAM BUTT,

Notary Public Fannin County, Georgia.

AFFIDAVIT OF WILLIAM A. WRIGHT.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fulton County.

Personally appeared, William A. Wright, who, being duly sworn in the above styled and numbered cause, on oath says:

Deponent is Comptroller-General of the State of Georgia, and has been for the past twenty-six years, and as such official has in his charge and custody, among other things, the official records of the State showing the improved lands and wild lands within the several counties of said State, which records of such improved and wild lands are compiled by deponent and in his office.

The wild lands in the counties bounded by the Tennessee line, and immediately adjacent to the Ducktown region, that is to say the counties of Murray, Fannin and Union, as shown by the records in deponent's office are as follows:

In the county of Fannin, in the year 1903, there were 70,181

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acres of wild land. In the year 1904 there were 77,052 acres of wild land, an increase of 6,871 acres over the year previous. In 1905 there were 88,323 acres of wild land, an increase over 1904 of 11,271 acres, or 18,142 acres increase for the years 1904 and 1905.

In Murray county there were 57,601 acres of wild land in the year 1903, and 59,321 acres in 1904, or an increase of 1,720 acres. There were 68,325 acres of wild land in 1905, an increase of 9,004 acres, or a total of 10,724 acres increase for the years 1904 and 1905.

There were 49,552 acres of wild land in Union county in 1903; there were 68,077 acres in 1905, or an increase of 18,525 acres.

The total increase of wild lands within said three counties within the past two years amount to 47,391 acres, the greater portion of the increase being within the past year, there being an increase of 11,171 acres in Fannin, 9,004 in Murray, and the total amount specified by Union county was an increase over 1904, there being 49,552 acres of wild land in 1903, 41,403 in 1904, and 68,077 in 1905.

Towns county, which also adjoins the Tennessee line and the Ducktown region, has retrograded in the matter of improved lands, there being less in 1905 than in 1903.

The counties of the State of Georgia adjoining the counties of Murray, Fannin and Union (excluding Towns on the extreme east, which is also a border county) are Catoosa, Walker, Whitfield, Gordon, Gilmer, Pickens, Lumpkin and White; with the exception of Whitfield which has lost 533 acres of improved lands from the amount cultivated in 1903, and Lumpkin, which has lost 4,123 acres, each of said counties has increased in the amount of lands improved and decreased in amount of wild lands within said counties. The acreage of wild land in Catoosa county for 1903 was 2,549; Walker, 34,640; Gordon 20,466; Gilmer, 45,632; Pickens, 11,265, and White, 38,164. In 1905 the amount of wild land in said counties was respectively Catoosa, 2,016; Walker, 32,303; Gordon, 19,933; Gilmer, 39,783; Pickens, 10,795, and White, 37,714.

In using the words "improved" and "wild lands," improved is meant to cover lands prepared for habitation or cultivation, and wild lands to denote lands wholly uncultivated and abandoned, or uncleared.

WM. A. WRIGHT.

Sworn to and subscribed before me, this 24th day of November, 1905.

LOGAN BLECKLEY,

Deputy Clerk, Supreme Court of Georgia.

AFFIDAVIT OF W. S. YEATES, GEOLOGIST.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fulton.

Personally appeared W. S. Yeates, who, being duly sworn herein, on oath says:

Affiant is a geologist by profession and has been for the past twenty-four years, and is now and since May 15, 1893, has been State Geologist for the State of Georgia.

Affiant was a member of both commissions appointed by the State of Georgia to investigate the conditions arising from the copper and sulphur smoke and fumes generated by the Ducktown and Tennessee Copper Companies, to wit: the commissions of 1903 and 1905.

Affiant, both in 1903 and 1905, made a careful and thorough investigation of the territory of the State of Georgia in near proximity to the Ducktown copper works.

In the examination of 1903 it was disclosed that the copper

and sulphur smoke and gases were doing great injury to the vegetation, fruit, and timber in the State of Georgia within a radius of a number of miles from the point on the Georgia line nearest to Ducktown, Tennessee.

The investigation of 1905 disclosed that the Tennessee Copper Company from whose works the major portion of the damage arises, abandoned its old works and site and erected its smelters and installed its furnace process several miles nearer—in fact, only a short distance from the Georgia line—had changed its process from open-heap roasting to reducing by furnace, which new process concentrated all smoke and gases within the narrow area of a chimney and gave them forth in a many-time stronger form than same were generated through the former method of roast-heaps.

In the immediate vicinity of the works the soil was not only wholly denuded of timber and vegetation, but by reason of the lack of such vegetation the rains had washed away the soil capable of producing vegetables, crops, or timber, leaving only decomposed rocks, incapable of sustaining vegetable life. Such a condition is the inevitable result of the continued destruction of all vegetable life, which in turn prevents retention by the earth of the moisture precipitated in such locality, occasioning, as a rule, the failure of springs and streams dependent thereon for their water supply.

Another result of this condition is the great injury to the highways within such territory. This is particularly true of a country of the character such as that around Ducktown, where it is largely of sloping character and sharp declivity. The heavy rains frequent in such mountainous countries run off as rapidly as precipitated upon the soil, and the fact that there is no vegetation to restrain or take up the moisture results in much washings of the hillsides, and the flooding of gulleys, creeks and branches, which in turn is practically injurious to the roads, they being neither corduroy nor macadam.

The chimney connected with said furnace was of sufficient height to ultimately slightly lessen the injury to the imme-

diate locality—that is, within a few hundred yards of the works—but beyond this limited area the power to injury by said fumes was made many times greater.

Under the present process the territory subject to the hurtful effects of said fumes is much larger than that within the influence of the old process. It is difficult to say how many miles within the State of Georgia the fumes may have effect, but it is beyond peradventure true that the territory has greatly increased since the furnace process was installed by the Tennessee Copper Company.

The Tennessee Copper Company has three furnaces in operation and four in course of erection, which, when completed, will more than double the capacity of the works and also the injuries being occasioned thereby. The operation of the new furnaces will greatly increase the territory subject to the ruinous effects of said fumes and double the damages hereinbefore specified, both as being done and threatened, which damage, by reason of the greater strength and volume of the fumes, will be accomplished much more speedily than could now be accomplished.

W. S. YEATES.

Sworn to and subscribed before me, this —— day of November, 1905.

W. H. HARRISON,
Notary Public Fulton County, Georgia.

IN THE SUPREME COURT OF THE UNITED STATES,

OCTOBER TERM. 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

GEORGIA—Gilmer County.

Personally appeared the undersigned who being duly sworn in the above stated case, each deposes and says as follows:

He has been a resident of said County and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property owner in said county, and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendants' furnaces. Each of deponents has by reason of his residence and the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil, and the character thereof; the streams, the timber, the various species of trees which prevail in said forests; the general values of the land for agricultural and other purposes, and the general values of the trees for lumber and timber purposes.

The timber interests in said county are exceedingly large and

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valuable. The timber, either standing or cut, posses a ready market. Many fine species of trees are to be found, such as the white pine, hickory, white oak, chestnut, poplar, and a large number of other varieties.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a grey haze or vapor It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive It is different from anything which deponents have ever experienced.

The color, the haze, the effect upon the eyes, the chaarcter of the odor, its peculiar unpleasant effect, all serve to physically identify beyond question the vapor or fumes which are discharged from the furnaces of the defendants

There is not in any section of Gilmer County to the knowledge of any of deponents any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendonts' mines. This vapor is denser in character and has a tendency to settle towards the earth whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or two and a half years been a matter of repeated occurrence during each month. This vapor has been generally noticed by the citizens and residents and has caused extensive comment.

Prior to said period of time the timber in the district in whch deponent lives was healthy, sound, in good condition, and there was no appearance of any cause generally affecting injuriously either the timber as a whole, or operating upon any particular species. Trees would occasionally here and there die from old age and random fires, lightning or other individual causes. These were, however, normal occurrences, and the great

body and bulk of the timber was in a normal, healthful, thriving condition.

Within the period of time mentioned and since the fumes and vapors emitted by the defendants' furnaces have been noticed in the district in which each deponent resides the general condition of the forests have changed—the timber is dying rapidly. It is no longer in a healthful condition. Much of it is dead. The percentage of dead trees to live trees has passed from a natural, normal per cent to one which is entirely unnatural and abnormal. Some of the species have become practically extinct, such as the chestnut-oak, and hickory. It is a fact that in the district in which each deponent lives these two varieties of trees have been to a large extent exterminated. These trees wither, cast the leaves in the summer long prior to the fall and die almost immediately. At the present rate of mortality of these two species it is a question of but a short time until they are absolutely exterminated in deponent's respective districts. In some of the districts of said county these trees have already become extinct.

Many other varieties of trees are showing similar effects and are dying in substantially the same way though requiring a greater length of time. Among these may be found the white pine, hemlock, white-oak, the post-oak and other varieties. Enormous quantities of these varieties are now in process of dying, the leaves wither and fall prior to the natural order of things. The leaves upon the white-pine turn yellow. The trees disclose to the eye at a glance that they are in process of death. Trees showing these outward signs in the late summer often do not put out the following spring. The trees thus affected will not put out at the top. This, the most exposed part of the tree is more quickly and rapidly affected than the under part which is to a greater or less extent protected by the surrounding trees and undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other course from which the results indicated could spring than that of the haze or mist above mentioned. There is no other haze, mist, vapor or fumes in said county from any other cause. There has been during said

period of time no peculiar or unusual climatic changes. There has been nothing unusual in any other physical or natural condition of affairs. There has been neither unusual drouth, nor excessive rainfall.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years in his respective district. He has not within the past two or three years noticed or observed anything unusual either in number of variety of this form of natural life.

H. M. Ellington, resident 30 years, district 11, section 2, Editor.
P. H. Milton, resident 61 years, district 11 section 2, Gardener.
W. H. Foster, resident 50 years, district 11, section 2, Farmer.
L. M. Simmons, resident 53 years, district 6, section 2, Farmer.
E. Buffington, resident 23 years, district 11, section 2, P. M.
J. J. Withrow, resident 25 years, district 10, section 2, Farmer.
B. W. Hill, resident 27 years, district 10, section 2, Farmer.
J. T. Sharp, resident 35 years, district 10, section 2, Farmer.
L. H. Sharp, resident 54 years, district 10, section 2, Farmer.
C. W. Jones, resident 21 years, district 10, section 2, Farmer
J. B. Harper, resident 27 years, district 10, section 2, Farmer.
E. J. Long, resident 23 years, district 10, section 2, Farmer.
J. W. Withrow, resident 55 years, district 10, section 2, Farmer.
D. S. Sumner, resident 40 years, district 10, section 2, Farmer.
Wm. Gibson, resident 44 years, district 10, section 2, Farmer.
L. M. Withrow, resident 24 years, district 10, section 2, Farmer.
J. R. Spivey, resident 29 years, district 10, section 2, Farmer.
D. V. Miller, J. P., resident 42 years, district 10, section 2. Farmer.
C. A. Gates, resident 23 years, section 10, section 2, Farmer.
A. F. Gates, resident 18 years, district 10, section 2, Farmer.
Jos. H. Randle, resident 22 years, district 10 section 2, Farmer.
G. W. Randle, resident 45 years, district 10, section 2, Farmer.
W. T. Pritchett, resident 38 years, district 11, section 2, Farmer.
L. L. Hill, resident 30 years, district 10, section 2, Farmer.
W. M. Hill, resident 25 years, section 10, district 2, Farmer.
J. B. Hill, resident 20 years, district 10, section 2, Farmer.
J. M. Hill, resident 23 years, district 10, section 2, Farmer.

L. L. Newberry, resident 20 years, district 10, section 2, Farmer.
L. E. Parks, resident 15 years, district 10, section 2, Farmer.
W. M. Parks, resident 45 years, district 10, section 2, Farmer.
J. R. Cole, resident 27 years, district 10, section 2, Farmer.
R. P. Parks, resident 45 years, district 10, section 2, Farmer.
J. W. Parks, resident 23 years, section 10, district 2, Farmer.
G. W. Wells, resident 35 years, district 26, section 2, Farmer.
J. P. Parks, resident 24 years, district 26, section 2, Farmer.
J. R. Fore, resident 29 years, district 26, section 2, Logger.
W. W. Wells, resident 17 years, district 26, section 2, Logger.
W. P. Wells, resident 35 years, district 26, section 2, Logger.
J. R. Wells, resident 30 years, district 26, section 2, Farmer.
W. W. Wells, resident 28 years, district 26, section 2, Farmer.
R. F. Simmons, resident 45 years, district 12, section 2, Farmer.
G. G. Wright, resident 35 years, district 12, section 2, Farmer.
J. R. Nicholson, resident 35 years, district 12, section 2, Farmer.
A. J. Williams, resident 20 years, district 5, section 2, Farmer.
J. B. Grizzel, resident 35 years, district 12, section 2, Farmer.
J. W. Clontz, resident 51 years, district 12, section 2, Farmer.
R. L. Henderson, resident 39 years, district 12, section 2, Farmer.
J. Evans, resident 21 years, district 5, section 2, Farmer.
W. M. Findly, Jr., resident 28 years, district 12, section 2, Farmer.
J. H. Nicholson, resident 25 years, district 12, section 2, Farmer.
J. W. Brown, resident 26 years, district 6, section 2, Farmer.
W. L. Henson, resident 19 years, district 11, section 2, Farmer.
J. W. Dunn, resident 40 years, district 11, section 2, Farmer.
Wm. Ellington, resident 60 years, district 11, section 2, Farmer.
J. H. Johnson, resident 34 years, district 11, section 2, Farmer.
V. U. Johnson, resident 33 years, district 11, section 2, Farmer.
W. P. Woody, resident 30 years, district 6, section 2, Farmer.
I. N. Walker, resident 68 years, district 6, section 2, Farmer.
D. W. Brookshire, resident 20 years, district 11, section 2, Farmer.
G. A. Newberry, resident 35 years, district 6, section 2, Farmer.
W. M. Davis, resident 38 years, district 6, section 2, Farmer.
S. P. Holt, resident 45 years, district 6, section 2, Farmer.
Jesse Holden, resident 65 years, district 6, section 2, Farmer.

J. C. Pettit, resident 64 years, district 6, section 2, Farmer.
H. Smith, resident 20 years, district 6, section 2, Farmer.
J. P. Chastain, resident 69 years, district 11, section 2, Farmer.
B. F. Ellington, resident 63 years, district 11, section 2, Farmer.
H. F. Weaver, resident 32 years, district 6, section 2, Farmer.
J. S. Long, resident 24 years, district 7, section 2, Farmer.
B. F. Mulkey, resident 20 years, district 6, section 2, Farmer.
H. I. Weaver, resident 18 years, district 6, section 2, Farmer.
C. W. Strickland, resident 19 years, district 11, section 2, Farmer.
J. H. Dunn, resident 18 years, district 11, section 2, Farmer.
Jno. Clontz, resident 11 years, district 11, section 2, Farmer.
W. A. Walker, resident 46 years, district 11, section 2, Farmer.
W. R. Weaver, resident 35 years, district 11, section 2, Farmer.
J. W. Colbert, resident 19 years, district 11, section 2, Farmer.
R. F. Harris, resident 20 years, district 11, section 2, Farmer.
B. H. Holt, resident 36 years, district 11, section 2, Farmer.
R. L. Rodgers, resident 40 years, district 11, section 2, Farmer.
J. W. Henson, resident 40 years, district 11, section 2, Farmer.
H. B. Pritchett, resident 27 years, district 11, section 2, Farmer.
W. M. Hampton, resident 3 years, district 11, section 2, Farmer.
J. S. Rogers, resident 33 years, district 11, section 2, Farmer.
J. E. P. Smith, resident 50 years, district 11, section 2, Farmer.
A. A. Sutten, resident 30 years, district 12, section 2, Farmer.
F. V. Teem, resident 50 years, district 12, section 2, Farmer.
J. F. Williams, resident 49 years, district 5, section 2, Farmer.
J. S. Wright, resident 42 years, district 11, section 2, Farmer.
E. A. Sutton, resident 45 years, district 12, section 2, Farmer.
J. C. H. Teem, resident 55 years, district 12, section 2, Farmer.
W. C. Tatum, resident 44 years, district 12, section 2, Farmer.
W. T. Nicholson, resident 64 years, district 12, section 2, Farmer.
W. R. Wright, resident 50 years, district 11, section 2, Farmer.
J. P. Evans, resident 49 years, district 11, section 2, Farmer.
J. H. Nicholson, resident 25 years, district 12, section 2, Farmer.
P. G. Hyatt, resident 58 years, district 25, section 2, Surveyor.
Geo. W. Patterson, resident 6 years, district 11, section 2, Machinist.

W. L. Plumley, resident 33 years, district 11, section 2, Lumberman.

C. W. Randle, resident 25 years, district 11, section 2, Lumberman.

D. R. Webb, resident 25 years, district 11, section 2, Lumberman.

Wm. Elliott, resident 57 years, district 11, section 2, Lumberman.

Subscribed and sworn to before me this January 29, 30 and 31; February 8, 9, and 10, 1906.

A. H. BURTZ, Notary Public, Glimer County, Ga.

No. 15, Original.

IN THE SUPREME COURT OF THE UNITED STATES,

OCTOBER TERM. 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,

County of Gilmer,

Personally appeared the undersigned, who being sworn in the above stated case, each deposes and says as follows: he lives in the above stated County and in the District and Section set opposite his name. He has resided in said County for the number of years, which is likewise set opposite his name. Each of deponents is a property owner in said County and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendants' furnaces and has frequently observed the sulphur fumes or vapor emitted from said furnaces. These fumes are of a somewhat whitish or grayish color, sometimes resembling a haze or mist. These fumes or mist have an exceedingly unpleasant odor, which is marked both in extent and character. On days when the atmosphere is heavy and the wind is blowing in the direction from the premises of defendants, these fumes appear to have considerable cohesive qualities and float through the air great distances. Frequently these fumes after drifting through

the air having the general appearance of a cloud, will settle toward the earth coming in contact with the trees and smaller vegetation.

Further, when the wind has been blowing from the direction of the defendant's premises and the atmosphere has been misty or cloudy, so that it was impossible to see the fumes, each of deponents has frequently known of the presence of sulphur fumes in the air from the strong and disagreeable odor.

To the knowledge of each of deponents, there is not in any section of Union County any mercantile or manufacturing enterprise or natural condition of affairs, which ever has, does or could produce either such haze, vapor or odor. The settling of this mist or vapor is not a thing, which occasionally occurs during the year. It has within the past two or two and a half years been a matter of repeated occurrence during each month. This vapor has been generally noticed by the citizens and residents of said County and has caused extensive comment.

Each of deponents has by reason of his residence and of the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said County. He is acquainted with the soil, and the character thereof; the streams, the timber, the various species of trees, which prevail in said forests; the general value of the land for agricultural and other purposes, and the general market value of the trees.

The timber consisting of white pine, hickory, white oak, chestnut, poplar, and a large number of other varieties is one of the natural resources of the County, and either standing or cut possesses a ready market.

That a few years ago the timber in the Western part of Union County was in a healthy and vigorous condition, containing only the ordinary and natural per cent of dead timber, such as trees which had died from old age, from being girdled, burned or struck with lightning. Since the fumes have been emitted by the defendant companies a marked difference has occurred in the character of said timber. The per cent of dead timber has greatly increased.

There has been no unnatural change in physical conditions; no marked or noticeable climatic occurrences have taken place; the weather has neither been unnaturally hot nor unnaturally cold; and there has been no unnatural drought or excessive rainfall during the time indicated.

A large per cent of certain kinds of trees, particularly hickary, chestnut oak, white pine and white oak in the Western part of said County discloses to the eye at a glance, that it is not vigorous and is dying. The leaves wither and fall prior to the natural order of things, the leaves of the white pine turn yellow, and the top, the most exposed part of the tree is more readily and quickly affected than the under part, which is to a greater or less extent protected by the surrounding trees and undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other source from which the results indicated could spring, than that of the fumes or vapor above mentioned.

Each of deponents has been ordinarily familiar with the usual insects and bugs, which have been found for many years in his respective district, and he has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of natural life.

H. H. Erwin, resident 41 years, district 9, section 1, Farmer.

A. M. Calwell, resident 33 years, district 10, section 1, Farmer.

Ed Butt, resident 24 years, district 9, section 1, Farmer.

C. L. Butt, resident 26 years, district 9, section 1, School Teaching.

S. V. Bennett, resident 28 years, district 9, section 1, Farmer.

W. L. Rogers, resident 33 years ,district 9, section 1, Farming.

J. G. Fields, resident 65 years, district 9, section 1, Farming.

W. M. O. Nelson, resident 25 years, district 17, section 1, Farming.

L. T. Christopher, resident 56 years, district 16, section 1, Merchant.

B. F. Hood, resident 45 years, district 16, section 1, Farming.

J. A. Reid, resident 37 years, district 9, section 1, Farming.

John Satterfield, resident 44 years, district 9, section 1, Farming.

P. V. Watkins, resident 35 years, district 9, section 1, Farming.
W. B. Brackett, resident 34 years, district 9, section 1, Farming.
Moses B. Weaver, resident 43 years, district 10, section 1, Farming.
L. A. Ross, resident 43 years, district 10, section 1, Farming.
W. M. Logan, resident 26 years, district 9, section 1, Farming.
G. A. Pruitt, resident 23 years, district 10, section 1, Farming.
A. L. Ingram, resident 38 years, district 10, section 1, Farming.
James W. Poms, resident 4 years, district 10, section 1, Farming.
John R. Gray, resident 14 years, district 10, section 1, Farming.
S. G. Harkins, resident 62 years, district 10, section 1, Farming.
E. G. Harkins, resident 32 years, district 10, section 1, Farming.
John Clements, resident 46 years, district 10, section 1, Farming.
John W. Jones, resident 61 years, district 10, section 1, Farming.
T. H. Jones, resident 22 years, district 10 section 1, Farming.
J. A. Jones, resident 18 years, district 10, section 1, Farming.
N. C. Forrester, resident 15 years, district 10, section 1, Farming.
N. B. Lang, resident 20 years, district 10, section 1, Farming.
James A. Butt, Jr., resident 33 years, district 10, section 1, Merchant.
W. G. Payne, resident 40 years, district 10, section 1, Farming.
W. A. McDons, resident 40 years, district 7, section 1, Farming.
J. B. McDons, resident 40 years, district 7, section 1, Farming.
S. A. Major, resident 45 years, district 10, section 1, Farming.
J. F. Rickets, resident 15 years, district 7, section 1, Farming.
J. T. Holland, resident 6 years, district 7, section 1, Farming.
John S. Watts, resident 42 years, district 10, section 1, Farming.
G. W. Roberson, resident 1 year, district 7, section 1, Farming.
E. E. Roberson, resident 1 year, district 7, section 1, Farming.
W. T. Telhero, resident 11 years, district 7, section 1, Farming.
W. B. Holbrook, resident 1 year, district 10, section 1, Farming.
J. Wash Parks, resident 50 years, district 7, section 1, Farming.
W. H. Taylor, resident 35 years, district 8, section 1, Farming.
A. J. Rector, resident 24 years, district 8, section 1, Farming.
J. A. Nichols, resident 32 years, district 8, section 1, Farming.
W. R. Shope, resident 20 years, district 7, section 1, Farming.
Allen Lancaster, resident 30 years, district 7, section 1, Farming.
D. J. Payne, resident 4 years, district 10, section 1, Farming.

R. H. Simonds, resident 10 years, district 7, section 1, Farming.
W. R. Seabolt, resident 27 years, district 10, section 1, Farming.
J. W. Parham, resident 40 years, district 10, section 1, Farming.
W. L. Parham, resident 40 years, district 10, section 1, Farming.
J. B. Ammons, resident 13 years, district 10, section 1, Farming.
A. V. Ledford, resident 31 years, district 10, section 1, Farming.
F. B. Ledford, resident 22 years, district 10 section 1, Farming.
H. L. Calwell, resident 48 years, district 9, section 1, Farming.
J. C. Bolring, resident 65 years, district 17, section 1, Farming.
A. C. Hemphill, resident 9 years, district 9, section 1, Merchant.
N. W. Gilbert, resident 50 years, district 9, section 1, Farming.
A. M. West, resident 53 years, district 9, section 1, Farming.
A. J. Saftis, resident 51 years, district 9, section 1, Farming.
Joe O. Loftis, resident 45 years, district 9, section 1, Farming.
L. N. Allen, resident 21 years, district 9, section 1, Farming.
N. B. Hill, resident 41 years, district 9, section 1, Farming.
J. G. Erwin, resident 40 years, district 9, section 1, Merchant and Farming.
J. B. Edge, resident 7 years, district 9, section 1, Merchant.
L. B. Chastain, resident 7 years, district 9, section 1, Farming.
M. L. Henson, resident 32 years, district 9, section 1, Merchant.
D. A. Byers, resident 18 years, district 8, section 1, Farming.
G. B. Warren, resident 30 years, district 8, section 1, Farming.
Wm. Davenport, resident 47 years, district 8, section 1, Farming.
W. J. Ledford, resident 19 years, district 8, section 1, Farming.
J. M. Poteete, resident 38 years, district 8, section 1, Farming.
J. W. Rogers, resident 35 years, district 8, section 1, Farming.
M. V. Lance, resident 43 years, district 8, section 1, Farming.
T. F. Hamson, resident 35 years, district 8, section 1, Farming.
R. L. Byrd, resident 4 years, district 8, section 1, Farming.
J. D. Lance, resident 44 years, district 8, section 1, Farming.
E. Cearley, resident 50 years, district 8, section 1, Farming.
Charles Cearley, resident 50 years, district 8, section 1, Farming.
F. L. Byers, resident 26 years, district 8, section 1, Farming.
John Cook, resident 19 years, district 8, section 1, Farming.
James Nichols, resident 25 years, district 8, section 1, Farming.
W. V. Poteete, resident 40 years, district 8, section 1, Farming.
C. E. Hendrix, resident 10 years, district 8, section 1, Farming.

Juan Chambers, resident 23 years, district 9, section 1, Farming.
A. L. England, resident 45 years, district 9, section 1, Farming.
D. L. Brackett, resident 37 years, district 9, section 1, Farming.
J. D. Penland, resident 42 years, district 9, section 1, Farming.
Pinkney Boyd, resident 60 years, distrct 9, section 1, Farming.
W. T. Sullivan, resident 55 years, district 9, section 1, Farmer.
W. E. Sullivan, resident 27 years, district 9, section 1, Farmer.
J. L. Chambers, resident 20 years, district 9, section 1, Farming.
J. W. Chambers, resident 22 years, district 9, section 1, Farming.
R. L. Nicholson, resident 36 years, district 9, section 1, Farmer.
L. A. Rich, resident 32 years, district 9, section 1, Farmer.
W. R. Rich, resident 26 years, district 9, section 1, Farming.
B. M. Petty, resident 23 years, district 9, section 1, Farming.
F. J. Erwin, M. D., resident 48 years, district 9, section 1, Druggist.
T. D. Rogers, resident 60 years, district 9, section 1, Farming.
T. C. Hughes, resident 61 years, district 9, section 1, Minister.
E. W. Butt, resident 62 years, district 9, section 1, Merchant.
V. I. Butt, resident 27 years, district 9, section 1, Editor.
W. E. Candler, resident 50 years, district 9, section 1, Attorney.
J. A. Gilreath, resident 44 years, district 10, section 1, Farmer.
S. Y. Jarrett, resident 56 years, district 9, section 1, Ordinary.
E. G. Wellburn, resident 49 years, district 9, section 1, Farming.
Pat Haralson, resident 32 years, district 9, section 1, Attorney.
S. A. Pless, resident 50 years, district 9, section 1, Sheriff Union Co. Ga.

Sworn to and subscribed before me, this the 29th day of March 1906.

JAMES L. HARALSON,
Clerk Superior Court, Union Co., Ga.

James L. Haralson, resident 36 years, district 9, section 1, Clerk Superior Court.
C. J. Wellborn, Jr., resident 38 years, district 9, section 1, Atty-at-Law.

Blairsville, Ga.

Sworn to and subscribed before me by C. J. Wellborn, Jr., and James L. Haralson, this 29th day of March, 1906.

W. E. CANDLER, N. P., Union Co., Ga.

IN THE SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM. 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,

County of Union.

Personally appeared before the undersigned, Notary Public, Will H. Shippen, who first being duly sworn in the above styled and numbered cause deposes and says:

That he is forty-one years of age, a timber-land owner and lumberman by profession, and has been a resident and identified with Gilmer County, Georgia for the past eight years.

Is at present President and General Manager of Shippen Bros., Lumber Company, of Ellijay, Georgia, a Georgia corporation, which has control of and owns upwards of 100,000 acres of timber in Gilmer, Fannin, Murray, Union and Towns Counties, Georgia, all more or less located within the distances directly affected by the fumes from the copper reducing plants located just across the Georgia line in Polk County Tennessee.

Deponent has had eighteen years of practical active experience in the lumber business, and in the forests of this State, Pennsylvania and Kentucky, and is by reason of such experience

thoroughly familiar with the commercial timber found in the forests of these States; their growth, appearance, commercial value, their care and management, and the causes generally that lead to their destruction and decay.

Deponent was a member of the Commission of 1905 appointed by the General Assembly of the Georgia Legislature to investigate the damage to timber and vegetation in North Georgia caused by the gases and fumes from the Copper Companies' plants above referred to. This deponent did visit a part of the stricken district in company with said Commission in August 1905 and helped to prepare and draft the report of said Commission and know of my personal knowledge, after a more thorough and searching investigation since that the same was in no wise overdrawn.

This deponent on account of the vital interest of the Shippen Brothers Lumber Company in this matter, and as a citizen of Gilmer County, Georgia, has during the past two years made the subject of the destruction of the forests and vegetation of North Georgia an especial study, and has devoted much time to tracing the effects of the fumes on the timber, fruit, crops and vegetation of this territory, and is in consequence of this fact and his vocation well acquainted with Fannin, Gilmer, Murray, Union and Towns Counties, Georgia, the lay of the land, the soil, crops, fruit, farming, the timber in the forest and the condition of same, the value of the timber for lumbering and other purposes. This deponent has made careful and exhaustive examination of the affected timber to determine absolutely the true cause of the injury. Many of these examinations hereabouts were made in company with Professor B. E. Fernow, or Forester J. F. Holmes of the United States Department of Forestry, as well as with the Investigating Commission above referred to, and in nearly every case the cause of injury and death was directly traced to the furnace fumes. This deponent by reason of his experience in the forests is thoroughly familiar with the appearance and signs that are always left by fire in timber; also lightning where marks are always plain; also the ravages of insects and fungi. From these close examinations of the affected timber and its appearance and my knowledge and experience in forestry,

I am certain that this wholesale destruction in North Georgia is being wrought almost entirely by the sulphur dioxid generated, developed and liberated in its concentrated form by the defendants' furnaces and smelters in Polk County, Tennessee.

The first time deponent's attention was called to the damage being done to fruit in this County by these fumes was some two years oga in deponent's orchard at Ellijay, when ex-representative, Thos. Johnson of Fannin County called my attention to the many faulty and decaying peaches and shrivelled apples in the orchard. We noted the peaches showed all the defects on the top side and on that exposed toward the defendant's plant, and this despite the fact that the orchard had been well sprayed and cared for. This deponent at this time, knowing little of the effects of these fumes on fruit, questioned Mr. Johnson's contentions, but he was steadfast in his claim, and stated that he had been raised in Fannin County near the harmful zone of the old roast heaps and had traced and knew the effects that they had on fruit there. That he had observed this harmful zone spread further and further and embrace new territory every year, and that it had now reached Ellijay. Since this time this deponent has often observed this same effect on the fruit in this County, and is now thoroughly convinced of the correctness of Mr. Johnson's contention.

When deponent first came in contact with the forest and timber in said counties some eight years ago, they were as healthy and thrifty as could be found anywhere, while at present in many parts of the said counties conditions are the very reverse, the timber is unhealthy, and shows at once to an experienced eye that it is suffering from some very severe blight. On cutting into the timber thus affected the new wood, or late annual growth will be found to be very small and in many cases showing no growth at all, and a tree thus affected will shortly die.

Deponent has visited the mines, works and smelters of the defendant companies and much of the country surrounding their operations in Tennessee, and has in consequence come into immediate contact with the gases and fumes liberated there and is thoroughly familiar with the appearance and odor of these sulphurous gases and fumes. Whenever one gets thoroughly

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acquainted with the odor of these gases there is no possible chance of ever getting them confused with any other odor or gas in all this country. I have often seen and smelled this gas very strong in the air throughout almost all parts of Fannin and Gilmer Counties and in many parts of Murray and Union counties, and this always when the wind was from the direction of the defendants' plants, and never when the air was from any other quarter. This odor being more perceptible when the air is damp and heavy. I had never noticed the presence of these fumes in the country much before the last two or three years, and there was not much timber or vegetation killed in the forest except from the usual natural causes, but since this gas has made its appearance here great quantities of timber has died. Last summer, particularly was this noticeable. This gas was present time after time, and this was attendant with vastly increased destruction of timber.

Around the immediate vicinity of the plants of the defendants the land is practically bare of vegetation of every description for a radius of two or three miles, and as one journeys away from same he notices some few varieties of hardy resisting grasses; further one finds a few stragling trees with the tops and outer limbs dead and curled. These usually are the heavy sap varieties. As he gets further away he notices the grasses and timber showing less and less the evil effects of the poisonous gases. If a barrier or mountain comes between the timber, on the side next to the mines, vegetation will show almost complete destruction. This too, usually on the north slopes where the soil is richest, and where the most thrifty and best timber is always found, when ordinary and healthy conditions prevail. While on the protected side, though it be the south, where the land is usually thin and timber small and scrubby, the trees will show little damage. About Ellijay, for instance and in Gilmer County, twenty to thirty miles from the furnaces, the hickory has almost all been killed and it is practically a thing of the past in the county, while chestnut oak, chestnut, white pine, hemlock and many of the oaks are fast following hickory. The further away from the mines one gets the less and less the damage shows, now confining itself to a few species in the forest—always the

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thin sap varieties that have their growth high up on the mountain in places exposed to the fumes as they are wafted against them. Any sensible person going to defendants' mines and works, knowing anything of forests and timber generally, seeing conditions there, then journeying away toward and through the stricken districts of this State could, and would, know and see the cause.

This destruction is fast spreading and reaching further and further into the territory of this State, and if the amount of sulphur as now smelted is trebled by the blowing in of four new furnaces the Tennessee Copper Company have blown in lately and are to blow in, the damage will be multiplied in the same ratio.

Even if the present fumes be not increased and they accomplish as much destruction of timber in the near future as they have in the recent past, it will only be a short time until the forests of North Georgia are as bleak and barren as the hills surrounding the defendants' plants in Tennessee. No where has this deponent witnessed such absolute destruction of all vegetation as exists on every hand near the operations of these copper companies. If all these fumes are to be concentrated in a single stack 325 feet high, and three times the green ore treated as heretofore, it is only a matter of a short time until the forests and vegetation in these counties is practically ruined and destroyed.

Our company at present has six large sawmills at work cutting our timbers in these counties, and at our present rate of cutting with our large holdings and if healthy conditions prevailed, we would have practically an inexhaustible supply of timber, as we are practicing forestry, cutting out only the mature timbers and letting the younger trees grow. Thus our timber would reproduce itself faster than we could cut it."

The sulphur dioxid generated by these companies spoils this entirely, as it kills everything on the ground, young and mature, and is at present destroying yearly many times as much timber as we are cutting in our business, and in many places making practically a clean sweep of everything on the land.

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This reponent has read the affidavit of Mr. J. Park Channing, Mr. Rondolph Adams, O. H. Glasser and others regarding the location of the Tennessee Copper Company's smelter never having been moved from where now located. Also the affidavit of Mr. T. G. Hudson, Dr. W. S. McCandless and Prof. W. S. Yates, all of whom were members of the same Investigating Committee with this deponent, and doubtless got their information on the subject while members of the said Commission in company with this deponent on our investigation. While it may be true no smelter may have been moved or erected nearer the territory of this state, the fact remains that the main production of the sulphur dioxid was moved much nearer this territory.

Under the old process the green ore was burned or roasted on open heaps some miles from the territory of this State and this sulphur dioxid largely liberated then and there and the smelters were used to treat material that had most of the sulphur burned out of it. Under the new process the green ore with all of the sulphur in it was brought to the smelters much nearer the territory of this State and smelted there. Using the words of the President of the Tennessee Copper Company, Mr. J. Park Channing, who, in speaking of this new process says:

"Much to our gratification we have found the gases from the furnaces are so rich in S- O- 2 that we can make acid from them by the Chamber process. This will give us a by-product which will be of great value in the south for the purpose of making fertilizer."

This S- O- 2 is none other than deadly sulphur dioxid, the agent of the wholesale destruction in North Georgia, and is made doubly more deadly to vegetation by being condensed and made "so rich," as Mr. Channing puts it, by concentration in the one stack and sent high into the air by the furnace heat to be drifted over Georgia territory.

This sulphur dioxid coming in contact with moisture is changed into sulphuric acid gas, or sulhpur trioxid, which being 2.21 times heavier than the atmospheric air of the same temperature, falls to the earth of its own weight, and proves the fallacy of the defendants' theory that a tall stack will do away with the damage to vegetation the present operation is attendant with.

Deponent further notes affidavit of Mr. J. Park Channing, wherein he states he determined to build the 325-foot stack at his plant to disseminate the gases before they come back to earth and thus relieve the damage. In an article on the same subject in a book on Pyrite Smelting he says in this connection:

"We are, however, providing the new plant with a stack 325 feet high (internal diameter 20 feet) so as to give us perfect draft, which is desirable in Pyrite Smelting, as without proper draft, and with gases leaking from doors the feed floor is by no means a comfortable place."

Employees and foremen in charge at the Tennessee Copper Company's plant told deponent that this stack was to be built to furnish proper and sufficient draft for the new furnaces then building and the ones then in use, as the 120-foot stack was not sufficient for furnaces then in use. Mr. Channing says this also in his affidavit, to-wit:

"The 120-foot stack now in use is of such small diameter that it is incapable of carrying off all the gases generated."

Deponent further notes wherein the said Mr. J. Park Channing says the State of Georgia was well aware that the Tennessee Copper Company and its predecessors in title had operated the copper industries in Polk County, Tenn., for many years and was in consequence well aware of conditions there.

This deponent knows that the damage and the principal destruction of the timber and farming interests of this State have been brought about and accomplished largely in the last two or three years and doubly so in Gilmer County during and since last summer.

Deponent further states that Mr. Channing is mistaken entirely when he deposed in said affidavit the belt of injury is confined almost entirely to the State of Tennessee, and almost entirely to the lands belonging to the Tennessee Copper Company and Ducktown Sulphur, Copper & Iron Company, but on the other hand deponent knows of thousands of acres of land belonging to Shippen Brothers Lumber Company, and other citizens and residents of the State of Georgia that have been and are daily being badly damaged, and the timber ruined by said fumes and gases.

Deponent further avers that Mr. Channing is further in error when he states nothing has as yet been demonstrated which proves that the furnace process is a greater nuisance than the roast heap process. Deponent knows that since the adoption of the new process by the Tennessee Copper Company in early summer last year, that the presence and strength of the sulphur fumes has been much more marked, and the destruction of timber and vegetation more than doubled throughout this territory.

This deponent has read the affidavit of Dr. C. A. Schank filed in this case, and know of my own personal knowledge that the Doctor is mistaken when he avers, in substance that the damage to timber in Georgia by the sulphur fumes is entirely confined to Fannin County and extending only eleven and a half miles from the State line, and am certain the Doctor could not have personally inspected this territory.

This deponent has noted damage in the southern part of Gilmer County, Georgia, twenty or thirty miles within the territory of Georgia, where, on certain original land lots, as much as eighty to ninety per cent of certain varieties of virgin timber had been killed by these fumes.

Dr. Schank is further in error when he avers, in substance, that all the streams that have their source in the territory affected, except one small creek, flows through Tennessee. The fact is, the region affected is drained by the following rivers, all of which have their source in the district affected and are distinctly Georgia rivers—the Jack, Connesauga, Oostanaula, Ellijay, Cartecay, Coosawatee, Nottla and Toccoa. All of these rivers are capable of doing great damage as in the case of one of the smallest of the lot—the Cartecay--when on a rampage this deponent has known it to sweep every bridge that crosses it from its source to its junction with Coosawatee and wound up by taking the railroad bridge at Ellijay out as well, twisting and tearing up and breaking the heavy railroad rails across said bridge, as if they were pipe-stems.

Dr. Schank is further in error when he avers that the damage within the territory under observation done to the trees of all species and of all sizes by forest fires is sylvaculturally and economically by far greater than the damage attributed to

sulphur fumes. This deponent is thoroughly familiar with the effects of forest fires on timber in this territory and other sections of the country. While it is no doubt a curse in many sections, it never kills great bodies of timber here, such as I have often seen in Pennsylvania, where I have even known fellow lumbermen to have lost their lives. It is very rare indeed here that any considerable damage is ever done to the timber by forest fires. This is no doubt on account of less under-brush and fuel on the ground. I have seen these fumes accomplish more devastation to timber in a few months last summer than I have observed caused by fire in my whole experience in this State.

This deponent further states that Dr. Schank is again in error when he avers that ninety-three per cent of this country to be deficient in saw timber, and that trees fit for the saw are so scattering that logging operations cannot be conducted at present range of prices. The Shippen Brothers Lumber Company have proven and are daily proving the incorrectness of this statement by their operations here in this very territory. Deponent knows where his company has cut the large mature saw timber from some lands in this territory, which operation after paying all cost of production of every description netted over $24.00 per acre, with much valuable timber, railroad ties and poles left on the land.

This deponent has read the affidavits of Drs. B. E. Fernow and C. A. Schank, and other experts filed in this case wherein they attempt to argue and prove that the destruction of timber and vegetation by sulphur fumes does not and will not affect the humidity of the air and streams that flow in this section.

They further agree that to accomplish this, this destruction of timber must be accomplished by fire, axe, or clearing, or some other method other than sulphur dioxid.

That forest cover does govern to a great extent the water supply of every county is well known and admitted by every forester of even limited experience the world over.

Doubly is this so in this case where the country affected is a great watershed, the backbone of a part of the great Appalachian range wherein the Georgia rivers above named have their source.

This deponent knows that timber and vegetation have been affected and killed over a very large section of this State embracing the affected country some four hundred and fifty square miles of territory, all more or less, affected. Near the furnaces in Georgia territory every thing on the land is killed—old and mature timber; second growth, bushes, and even the ferns and mosses, the damage decreasing usually as distance from furnaces increased so that on the outer edge of the affected zone the damage confines itself to a few as well as single species. With all this wholesale destruction of timber over this vast territory, no sensible forester with even the most limited experience will question but that this destruction of timber and vegetation has and will exert a very marked influence on the rivers of Georgia that have their source in the affected district.

This deponent has read the affidavit of M. J. Webb, filed in this case, and while this deponent has often been reminded of the animus of the said Webb, hardly thought that he would have gone so far as to have injected this into a matter of this kind, and taken the liberty with the name of the Shippen Bros., Lumber Co., that he has. His slurs and references in this matter are wholly without foundation or fact. This deponent states that the said Webb is further mistaken when he avers that the soil throughout the counties of Gilmer, Murray and Fannin is thin and poor and that there is no profitable farming, and none can be carried on except in the most isolated cases. This deponent knows that there is rich, fertile, black, loamy and productive lands here, and very often on the very tops of some of our highest mountains, as can be found anywhere. Deponent has just picked up an Irish potato from a barrel of same in our Company's store here that was grown on a mountain near here in this same black soil that weighed one pound and ten ounces. This potato came from near the same land on which C. H Arnold, deposes by affidavit in this case, that he has raised at the rate of 636 bushels of potatoes to the acre in this county. Out of another barrel in our store has just selected a sweet potato grown near Ellijay that weighed over two and a half pounds, and has repeatedly seen apples grown in this mountain land that weighed over sixteen ounces, and has himself raised turnips that

weighed eight pounds, and pears that weighed sixteen and a half ounces, and peaches that measured over thirteen inches in circumference, that were all as perfect as could be, all grown on this deponent's farm in Ellijay. Much of the territory hereabouts is excellent fruit land and has until recently attracted many men from other counties in the State, who are planting out extensive commercial fruit orchards in this county.

This deponent further avers that M. J. Webb is again entirely mistaken when he says that there is no injury in either Gilmer or Murray County, either to crops, timber or roads. Deponent knows of his own knowledge of great damage in both counties from the Ducktown fumes. This deponent knows that the sulphur fumes in this county, Fannin, and part of Murray and Towns has almost completed the Bee industry, and where a few years ago thousands of pounds of the very best honey was made, there is scarcely any to be found, and the bees are almost entirely annihilated.

As a member of the Commission appointed by the Georgia Legislature, this deponent has been repeatedly appealed to, approached and solicited by the farmers, timber owners, and others of the affected districts, asking and imploring that I do everything in my power for their relief, they relating instance after instance of the damage to their property by these fumes.

This deponent knows from the present scope of territory now affected in this State, and which is increasing at an alarming rate, that the present value of the property now involved transcends four-fold in value that of defendants' companies in this suit, besides the certain full developmet of the timber, if these fumes be suppressed, in the very near future, calling for the establishment of immense wood-working plants seeking cheap material and employing thousands of men in the full exploiting of same, and developing the resources of this country, besides the farming and fruit raising interests of this country, all of which the fumes from these defendants' furnaces are destroying entirely.

That this destruction is wholly wanton, and can be successfully and properly handled by the installation of a sulphuric acid plant is proven by no less person than the President of one

of the defendants in this case, J. Park Channing, in an article by him on Pyrite Smelting wherein he says in speaking of the new process adopted by the Tennessee Copper Company:

"Much to our gratification we have found that the gases from the furnaces are so rich in S- O- 2 that we can make acid from them by the Chamber process. This will give us a by-product which will be of great value in the south for the purpose of making fertilizers, and not only will this operate toward the reducing the volume of gases given to the atmosphere, but will prove a source of considerable revenue."

This deponent is of the opinion that the 325-foot stack of the Tennessee Copper Company will in no wise relieve the situation, and on the contrary will only increase the destruction of timber in the territory of this State. Such a stack cannot possibly perform the miracle of suspending a gas in mid-air that has a specific gravity of 2.21. Deponent believes that the only hope for relief in this matter lies in the establishment of a sulphuric acid plant at these furnaces that will absorb these gases and prevent their free liberation in the air.

WILL H. SHIPPEN

Sworn to and subscribed before me this 13th day of April, 1906.

W. T. PICKETT, Notary Public, Gilmer County, Georgia.

IN THE SUPREME COURT OF THE UNITED STATES,

OCTOBER TERM. 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART, *Plaintiff.*

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED), *Defendants.*

} In Equity.

STATE OF GEORGIA,

County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above stated case, each deposes and says as follows:

He has been a resident of said County and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property owner in said county, and each is engaged in the business set opposite his name.

Each of deponents says that the land when cleared of the trees, and particularly the land which is irrigated by streams, in the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil, and the character thereof; the streams, the timber, the various species of trees which prevail in said forests; the general values of the land for agricultural and other purposes, and the general values of the trees for lumber and timber purposes.

Each of deponents says that theland when cleared of the trees, and particularly the land that which is irrigated by streams, in his particular district are fertile, readily cultivated and produce in paying quantities corn, wheat and other crops. The soil is specially adapted for the raising of what is termed market truck, such as tomatoes, corn, cabbage, etc.

Much of said county is devoted to agricultural purposes. The farms as a rule have heretofore been profitable to the owners. They have been heretofore cultivated each year and were generally in good condition.

The timber interests in said state are exceedingly large and valuable. The timber, either standing or cut, possesses a ready market. Many fine species of trees are to be found, such as the white pine, hickory, white oak, chestnut, poplar, and a large number of other varieties.

Within the past two or three years the furnaces of defendants have been smelting enormous quantitis of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is preceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents have ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of Fannin County to the knowledge of any of deponents any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or

two and a half years been a matter of repeated occurrence during each month. This vapor has been generally noticed by the citizens and residents and has caused extensive comment.

Prior to said period of time the timber in the district in which deponent lives was healthy, sound, in good condition, and there was no appearance of any cause generally affecting injuriously either the timber as a whole, or operating upon any particular species. Trees would occasionally here and there die from old age and random fires, lightning, or other individual causes. These were, however, normal occurrences, and the great body and bulk of the timber was in a normal, healthful, thriving condition.

Within the period of time mentioned and since the fumes and vapors emitted by the defendants' furnaces have been noticed in the district in which each deponent resides the general condition of the forests have changed—the timber is dying rapidly. It is no longer in a healthful condition. Much of it is dead. The percentage of dead trees to live trees has passed from a natural, normal per cent to one which is entirely unnatural and abnormal. Some of the species have become practically extinct, such as the chestnut, oak, and hickory. It is a fact that in the district in which each deponent lives these two varieties of trees have been to a large extent exterminated. These trees wither, cast their leaves in the summer long prior to the fall and die almost immediately. At the present rate of mortality of these two species it is a question of but a short time until they are absolutely exterminated in deponent's respective districts. In some of the districts of said county these trees have already become extinct.

Many other varieties of trees are showing similar effects and are dying in substantially the same way though requiring a greater length of time. Among these may be found the white pine, hemlock, white oak, the post-oak and other varieties. Enormous quantities of these varieties are now in process of dying, the leaves wither and fall prior to the natural order of things. The leaves upon the white pine turn yellow. The trees disclose to the eye at a glance that they are in process of death. Trees showing these outward signs in the late summer often do

not put out the following spring. The trees thus affected will not put out at the top. This ,the most exposed part of the tree is more quickly and readily affected than the under part which is to a greater or less extent protected by the surrounding trees and undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other cause from which the results indicated could spring than that of the haze or mist above mentioned. There is no other haze, mist, vapor or fumes in said county from any other cause. There has been during said period of time no peculiar or unusual climatic changes. There has been nothing unusual in any other physical or natural condition of affairs. There has been neither unusual drouth, nor excessive rainfall.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years in his respective district. He has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of natural life.

Deponents state that upon repeated occasions the haze or vapor mentioned above would in the spring and summer settle upon the earth and come in physical contact with the crops that have been planted. In a single night after these fumes thus described would touch thevegetation it would be either entirely destroyed or seriously injured. It would wither and turn yellow as if a heavy frost had fallen upon it though no frost had touched it. would touch the vegetation it would be either entirely destroyed

The same effect as that above described would be noticed upon the various orchards after one or more visitations, either the fruit being entirely destroyed or the product being small, dwarfed fruit entirely unfit for use.

Deponents state that in some of the districts of Fannin County a number of farms have been abandoned because of the settling of these sulphur fumes from the defendants' furnaces upon the farm. Prior to the last few years none of these farms had to deponent's knowledge been afflicted in the way described. Said farms prior to said times had been cultivated in the usual ordinary way and produced the usual ordinary results.

Deponents state from their knowledge of farming that no farm can be successfully conducted when it is subjected to the results above indicated, and from their knowledge of such farms, the physical conditions which exist and the experiences related and had by them with the sulphur fumes, it is their opinion, based upon the facts above given, that during the coming year a very large further number of farms in said county will be abandoned. It is a fact that farming operations cannot be successfully carried on under the conditions enumerated.

Subscribed and sworn to before me this January 1906.

Stephen Griffin, resident 53 years, district 8, section 2, Farmer.
T. P. Jenkins, resident 20 years, district 8, section 2, Farmer.
E. J. McClure, resident 45 years, district 8, section 2, Farmer.
M. B. Williamson, resident 49 years, district 9, section 2, Farmer.
J. D. Land, resident 46 years, district 8, section 2, Farmer.
R. W. Nichols, resident 33 years, district 7, section 1, Merchant.
J. E. Crawford, resident 53 years, district 7, section 1, Farmer.
T. J. Wilson, resident 50 years, district 8, section 1, Farmer.
W. T. Panter, resident 33 years, district 8, section 1, Farmer.
W. H. German, resident 33 years, district 8, section 1, Farmer.
Ben. C. Arp, resident 55 years, district 8, section 2, Farmer.
W. S. Bailey, resident 39 years, district 7, section 1, Farmer.
R. L. Curtis, resident 34 years, district 8, section 1, Farmer.
Hanson Orton, resident 38 years, district 7, section 1, Farmer.
Thos. R. Johnson, resident 44 years, district 8, section 2, Farmer and Lumberman.
U. S. Arp, resident 32 years, district 8, section 2, Farmer.
S. M. Baugh, resident 40 years, district 8, section 2, Farmer.
J. E. Cochran, resident 45 years, district 8, section 2, Farmer.
J. J. Crawford, resident 34 years, district 8, section 2, Farmer.
W. R. Cole, resident 58 years, district 8, section 1, Farmer.
W. T. S. Dickey, resident 42 years, district 8, section 2, Farmer and Office.
A. G. Roberson, resident 25 years, district 8, section 2, Farmer.
Will McNelly, resident 22 years, district 8, section 2, Merchant.
J. W. Farmer, resident 45 years, district 8, section 2, Farmer.
G. P. Dickey, resident 52 years, district 8, section 2, Merchant.

Jim Dickey, resident 21 years, district 8, section 2, Farmer and Clerk.
J. B. Dickey, resident 50 years, district 8, section 2, Farmer.
S. P. Russel, resident 20 years, district 8, section 1, Farmer.
J. W. Chapman, resident 3 years, district 8, section 2, Farmer.
H. Mull, resident 22 years, district 8, section 2, Farmer.
J. H. Gibbs, resident 32 years, district 8, section 2, Farmer.
J. E. McNelley, resident 24 years, district 8, section 2, Office.
W. C. Ballew, resident 20 years, district 8, section 2, Farmer.
J. M. Dye, resident 39 years, district 8, section 2, Farmer.
A. F. Mull, resident 25 years, district 8, section 2, Farmer.
W. K. Dillard, resident 41 years, district 8, section 2, Farmer.
J. P. Dilard, resident 53 years, district 8, section 2, Farmer.
J. W. Chastain, resident 12 years, district 8, section 2, Lumberman.
O. Q. Briant, resident 21 years, district 8, section 1, Lumberman.
J. J. Newton, resident 50 years, district 8, section 2, Farmer.
A. J. Kayloe, resident 35 years, district 8, section 2, Farmer.
R. Wolford, resident 25 years, district 8, section 2, Farmer.
W. C. Bowlin, resident 18 years, district 8, section 2, Merchant.
A. J. Odom, resident 52 years, district 8, section 2, Merchant
J. R. Willis, resident 50 years, district 8, section 2, Merchant.
J. R. Ballew, resident 43 years, district 8, section 2, Farmer.
W. T. Buchanan, resident 36 years, district 8, section 2, Farmer.
T. T. Fain, resident 50 years, district 8, section 2, Physician.
W. A. Daves, resident 48 years, district 7, section 1, Ordinary and Farmer.
W. G. Owenby, resident 7 years, district 8, section 2, Merchant.
J. H. Stuart, resident 48 years, district 8, section 2, Farmer.
M. A. Brackett, resident 12 years, district 8, section 1, Farmer.
John W. Anderson, resident 51 years, district 8, section 2, Farmer and Merchant.
G. W. Ross, resident 63 years, district 8, section 2, Farmer.
W. L. Hunter, resident 40 years, district 8, section 2, Farmer.
J. F. McNelly, resident 40 years, district 8, section 2, Merchant.
J. M. Ledford, resident 6 years, district 8, section 2, Farmer.
R. M. Cook, resident 18 years, district 7, section 1, Farmer.
C. G. Baugh, resident 49 years, district 8, section 2, Timberman.

M. S. Mull, resident 8 years, district 8, section 2, Farmer.
J. N. Barnes, resident 4 years, district 8, section 1, Farmer.
W. J. Witt, resident 24 years, district 8, section 2, Farmer.
C. J. Corn, resident 23 years, district 8, section 2, Farmer.
C. E. Gilbertson, resident 2 years, district 8, section 2, Superintendent Blue Ridge Tannery.
M. Farmer, resident 39 years, district 8, section 2, Farmer.
G. D. Brackett, resident 12 years, district 8, section 2, Farmer.
Grant Gee, resident 35 years, district 7, section 2, Farmer.
A. B. Davis, resident 30 years, district 8, section 2, Farmer.
J. W. Thomas, resident 20 years, district 8, section 2, Farmer.
R. D. Blanton, resident 1 year, district 8, section 2, Farmer.
R. L. Buchanan, resident 28 years, district 8, section 2, Farmer.
A. W. Henson, resident 10 years, district 8, section 2, Farmer.
T. W. Davis, resident 10 years, district 8, section 2, Farmer.
J. M. Falls, resident 40 years, district 8, section 2, Farmer.
J. W. Dye, resident 21 years, district 8, section 2, Farmer.
Fred Forrester, resident 16 years, district 8, section 2, Farmer.
W. D. Hull, resident 45 years, district 8, section 2, Farmer.
J. W. Elrod, resident 9 years, district 8, section 2, Farmer.
T. M. Dillard, resident 56 years, district 8, section 2, Farmer.
J. A. Self, resident 2 years, district 8, section 1, Lumber.
Dock Garren, resident 16 years, district 8, section 2, Farmer.
G. W. Wilson, resident 40 years, district 8, section 2, Farmer.
J. R. Queen, resident 1 year, district 8, section 2, Farmer.
William H. Davenport, resident 65 years, district 8, section 2, Farmer.
J. R. Ballee, resident 43 years, district 8, section 2, Farmer.
Andrew Henson, resident 37 years, district 8, section 2, Farmer.
J. A. Allison, resident 10 years, district 8, section 2, Miller.
J. W. Dickey, resident 28 years, district 8, section 2, Farmer.
W. M. Harper, resident 50 years, district 8, section 2, Farmer.
John E. Harper, resident 50 years, district 8, section 2, Farmer.
G. W. Flowers, resident 10 years, district 8, section 2, Farmer.
Geo. Handcock, resident 50 years, district 8, section 2, Farmer.
John Farmer, resident 37 years, district 8, section 2, Farmer.
James G. Brock, resident 41 years, district 8, section 2, Farmer.
G. M. Dickey, resident 50 years, district 8, section 2, Merchant.

G. P. Ross, resident 25 years, district 8, section 2, Farmer.
C. J. Trammell, resident 40 years, district 8, section 2, Lumberman.
Jas. Stepp, resident 5 years, district 8, section 2, Farmer.
James Curtis, resident 45 years, district 8, section 2, Farmer.
W. B. Lovingood, resident 40 years, district 8, section 2, Farmer.
W. M. Allen, resident 30 years, district 8, section 2, Farmer.
C. M. Butt, resident 25 years, district 8, section 2, Merchant.
J. A. Freeman, resident 2 years, district 8, section 2, Farmer.
T. S. Smith, resident 40 years, district 8, section 2, Farmer.
P. J. Kincaid, resident 35 years, district 7, section 2, Farmer.
Frank Smith, resident 25 years, district 8, section 2, Farmer.
G. B. Crawford, resident 22 years, district 8, section 2, Farmer.
W. L. Conley, resident, 28 years, district 8, section 2, Farmer.
Thos H. Crawford, resident 27 years, district 8, section 2, County Treasurer.
W. W. Findley, resident 30 years, district 8, section 2, Farmer.
W. A. Wilson, resident 47 years, district 8, section 2, Farmer.
R. E. Green, resident 35 years, district 7, section 2, Farmer.
Brook E. Davenport, resident 27 years, district 8, section 2, Farming.
A. B. Dickey, resident 61 years, district 8, section 2, Farmer.
Thos. J. Wilson, resident 49 years, district 8, section 2, Farmer.
A. A. Thurma, resident 23 years, district 8 section 2, Farmer.
Elard Wilson, resident 22 years, district 8, section 2, Farmer.
Bruce Mull, resident 12 years, district 8, section 2, Farmer.
J. C. Abercrombie, resident 27 years, district 8, section 2, Farmer.
A. F. Christopher, residence 6 years, district 8, section 2, Physician.
N. Nichols, resident 25 years, district 8, section 2, Farmer.
John Owenby, resident 35 years, district 8, section 2, Farmer.
J. M. Black, resident 7 years, district 8, section 2, Merchant.
M. H. Gibbs, resident 25 years, district 8, section 2, Farmer.
E. W. Kincaid, resident 54 years, district 8, section 2, Farmer.
Hix Carter, resident 56 years, district 8, section 2, Farmer.
E. H. Newton, resident 50 years, district 8, section 2, Farmer.
W. M. Pierce, resident 15 years, district 8, section 2, Blacksmith.

A. P. Johnson, resident 30 years, district 8, section 2, Merchant.
T. A. Terrell, resident 17 years, district 8, section 2, D. D. S.
Edgar W. Butt, resident 31 years, district 8, section 2, Merchant.
F. C. Willis, resident 26 years, district 8, section 2, Merchant.
Poly Cook, resident 29 years, district 8, section 2, Farmer.
Arthur Bailey, resident 25 years, district 8, section 2, Farmer.
Thomas Bailey, resident 21 years, district 8, section 2, Farmer.
T. G. Hall, resident 48 years, district 8, section 2, Farmer.
John A. Wilson, resident 31 years, district 8, section 2, Assistant Postmaster.
B. L. Smith, resident 32 years, district 8, section 2, Editor.
T. N. Thomas, resident 45 years, district 8, section 2, Farmer.
J. A. Green, residence 49 years, district 7, section 2, Farmer.

Sworn to and subscribed before me this January 25th, 1906.

THOS. A. BROWN,

Notary Public Union County, Georgia

IN THE SUPREME COURT OF THE UNITED STATES,

OCTOBER TERM. 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,

County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above stated case, each deposes and says as follows:

He has been a resident of said County and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property owner in said county, and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendants' furnaces. Each of deponents has by reason of his residence and the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil, and the character thereof; the streams, the timber, the various species of trees which prevail in said forests; the general values of the land for agricultural and other purposes, and the general values of the trees for lumber and timber purposes.

Each of deponents says that the land when cleared of the trees, and particularly the land which is irrigated by streams, in his particular district are fertile, readily cultivated and produce in paying quantities corn, wheat and other crops. The soil is specially adapted for the raising of what is termed market truck, such as tomatoes, corn, cabbage, etc.

Much of said county is devoted to agricultural purposes. The farms as a rule have heretofore been profitable to the owners. They have been heretofore cultivated each year and were generally in good condition.

The timber interests in said state are exceedingly large and valuable. The timber, either standing or cut, possesses a ready market. Many fine species of trees are to be found, such as the white pine, hickory, white oak, chestnut, poplar, and a large number of other varieties.

Within the past two or three years the furnaces of defendants have been smelting enormous quantitis of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is preceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents have ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of Fannin County to the knowledge of any of deponents any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or

two and a half years been a matter of repeated occurrence during each month. This vapor has been generally noticed by the citizens and residents and has caused extensive comment.

Prior to said period of time the timber in the district in which deponent lives was healthy, sound, in good condition, and there was no appearance of any cause generally affecting injuriously either the timber as a whole, or operating upon any particular species. Trees would occasionally here and there die from old age and random fires, lightning, or other individual causes. These were, however, normal occurrences, and the great body and bulk of the timber was in a normal, healthful, thriving condition.

Within the period of time mentioned and since the fumes and vapors emitted by the defendants' furnaces have been noticed in the district in which each deponent resides the general condition of the forests have changed—the timber is dying rapidly. It is no longer in a healthful condition. Much of it is dead. The percentage of dead trees to live trees has passed from a natural, normal per cent to one which is entirely unnatural and abnormal. Some of the species have become practically extinct, such as the chestnut, oak, and hickory. It is a fact that in the district in which each deponent lives these two varieties of trees have been to a large extent exterminated. These trees wither, cast their leaves in the summer long prior to the fall and die almost immediately. At the present rate of mortality of these two species it is a question of but a short time until they are absolutely exterminated in deponent's respective districts. In some of the districts of said county these trees have already become extinct.

Many other varieties of trees are showing similar effects and are dying in substantially the same way though requiring a greater length of time. Among these may be found the white pine, hemlock, white oak, the post-oak and other varieties. Enormous quantities of these varieties are now in process of dying, the leaves wither and fall prior to the natural order of things. The leaves upon the white pine turn yellow. The trees disclose to the eye at a glance that they are in process of death. Trees showing these outward signs in the late summer often do

not put out at the top This ,the most exposed part of the tree is more quickly and readily affected than the under part which is to a greater or less extent protected by the surrounding trees and undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other cause from which the results indicated could spring than that of the haze or mist above mentioned. There is no other haze, mist, vapor or fumes in said county from any other cause. There has been during said period of time no peculiar or unusual climatic changes. There has been nothing unusual in any other physical or natural condition of affairs. There has been neither unusual drouth, nor excessive rainfall.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years in his respective district. He has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of natural life.

Deponents state that upon repeated occasions the haze or vapor mentioned above would in the spring and summer settle upon the earth and come in physical contact with the crops that have been planted. In a single night after these fumes thus described would touch the vegetation it would be either entirely destroyed or seriously injured. It would wither and turn yellow as if a heavy frost had fallen upon it though no frost had touched it.

The same effect as that above described would be noticed upon the various orchards after one or more visitations, either the fruit being entirely destroyed or the product being small, dwarfed fruit entirely unfit for use.

Deponents state that in some of the districts of Fannin County a number of farms have been abandoned because of the settling of these sulphur fumes from the defendants' furnaces upon the farm. Prior to the last few years none of these farms had to deponent's knowledge been afflicted in the way described. Said farms prior to said times had been cultivated in the usual ordinary way and produced the usual ordinary results.

Deponents state from their knowledge of farming that no farm can be successfully conducted when it is subjected to the re-

sults above indicated, and from their knowledge of such farms, the physical conditions which exist and the experiences related and had by them with the sulphur fumes, it is their opinion, based upon the facts above given, that during the coming year a very large further number of farms in said county will be abandoned. It is a fact that farming operations cannot be successfully carried on under the conditions enumerated.

Subscribed and sworn to before me this January 1906.

W. C. Wilson, resident 24 years, district 7, section 1, Farmer.
D. C. Pickelsimer, resident 21 years, district 7 section 1, Farmer.
J. L. Pickelsimer, resident 41 years, district 7, section 1, Farmer.
W. V. Daves, resident 31 years, district 7, section 1, Farmer.
J. E. Daves, resident 52 years, district 7, section 1, Farmer.
W. B. Legg, resident 50 years, district 7, section 1, Farmer.
G. D. Nixon, resident 25 years, district 8, section 1, Farmer.
Geo. W. Aaron, resident 50 years, district 8, section 2, Farmer.
J. A. Griffin, resident 32 years, district 8, section 2, Farmer.
D. Shell, resident 40 years, district 8, section 2, Farmer.
W. R. Godfrey, resident 42 years, district 8, section 2, Farmer.
J. A. Cash, resident 18 years, district 8, section 2, Farmer.
Jiles Green, resident 50 years, district 8, section 2, Farmer.
W. K. Chastain, resident 40 years, district 8, section 2, Farmer.
Sam McKiney, resident 30 years, district 8, section 2, Farmer.
J. C. Sisson, resident 40 years, district 8, section 2, Farmer.
J. D. Chastain, resident 10 years, district 8, section 2, Farmer.
J. T. Long, resident 10 years, district 9, section 2, Farmer.
G. W. Phillips, resident 43 years, district 9, section 2, Merchant.
J. F. Dunn, resident 48 years, district 9, section 2, Farmer.
Nebo Dunn, resident 20 years, district 9, section 2, Farmer.
T. A. Ritcie, resident 32 years, district 9, section 2, Timber.
G. W. Foster, resident 44 years, district 9, section 2, Farmer.
J. T. Jones, resident 35 years, district 9, section 2, Farmer.
James Hayes, resident 4 years, district 9, section 2, Farmer.
John Hayes, resident 2 years, district 9, section 2, Farmer.
W. T. Higdon, resident 38 years, district 9, section 2, Farmer.
G. W. Kellar, resident 55 years, district 9, section 2, Farmer.
Louis Patterson, resident 60 years, district 9, section 2, Farmer.

J. E. Yother, resident 3 years, district 9, section 2, Farmer.
Joseph Welch, resident 50 years, district 9, section 2, Farmer.
J. R. McKiney, resident 25 years, district 9, section 2, Merchant.
Frank Cabe, resident 30 years, district 9, section 2, Farmer.
J. S. Windchester, resident 5 years, district 9, section 2, Farmer.
Fanny Thomas, resident 39 years, district 9, section 2, Farmer.
G. Campbell, resident 40 years, district 9, section 2, Farmer.
John Newton, resident 18 years, district 9, section 2, Farmer.
P. W. Hice, resident 30 years, district 9, section 2, Farmer.
Ira Kincaid, resident 31 years, district 8, section 2, Farmer.
Thos. Green, resident 50 years, district 7, section 2, Farmer.
J. P. Cole, resident 56 years, district 8, section 2, Farmer.
Swinfield Standley, resident 9 years, district 7, section 2, Farmer.
S. H. Crawford, resident 50 years, district 8, section 2, Farmer.
James P. Aaron, resident 43 years, district 8, section 2, Merchant.
G. V. Cochran, resident 40 years, district 8, section 2, Sewing Machine Agent.
W. A. Anderson, resident 8 years, district 8, section 2, Pho. Agt.
J. A. Odom, resident 8 years, district 8, section 2, Farmer.
G. A. Curtis, resident 27 years, district 8, section 2, Farmer.
William Percey, resident 50 years, district 8, section 2, Farmer.
L. E. Harper, resident 50 years, district 8, section 2, Farmer.
J. H. Green, resident 21 years, district 8, section 2, Farmer.
Andy Green, resident 50 years, district 8, section 2, Farmer.
A. B. Bennett, resident 26 years, district 8, section 2, Merchant.
J. M. Ensley, resident 15 years, district 8, section 2, Farmer.
G. J. Cochran, resident 30 years, district 8, section 2, Farmer.
A. T. Glazner, resident 14 years, district 8, section 2, Farmer.
J. A. Horton, resident 4 years, district 8, section 2, Farmer.
William Tankersley, resident 50 years, district 9, section 2, Farmer.
Oscoe Dunn, resident 18 years, district 9, section 2, Farmer.
W. J. Mull, resident 47 years, district 9, section 2, Farmer.
G. W. A. Lanning, resident 44 years, district 9, section 2, Farmer.
James Walden, resident 36 years, district 9, section 2, Farmer.
H. A. Vestel, resident 25 years, district 9, section 2, Merchant.
T. C. Hayes, resident 2 years, district 9, section 2, Farmer.
Leon Higdon, resident 56 years, district 9, section 2, Farmer.

Samuel Higdon, resident 28 years, district 9, section 2, Farmer.
J. M. C. Porter, resident 35 years, district 9, section 2, Farmer.
J. F. Thomas, resident 64 years, district 9, section 2, Farmer.
L. A. Vaughn, resident 38 years, district 9, section 2, Farmer.
J. W. Mathews, resident 33 years, district 9, section 2, Farmer.
C. R. Russell, resident 3 years, district 9, section 2, Farmer.
J. A. McKiney, resident 50 years, district 9, section 2, Farmer.
W. F. Thomas, resident 50 years, district 9, section 2, Farmer.
J. B. Yother, resident 1 year, district 9, section 2, Farmer.
C. R. Parks, resident 50 years, district 9, section 2, Farmer.
J. D. Patterson, resident 29 years, district 9, section 2, Farmer.
C. M. Kincaid, resident 50 years, district 8, section 2, Farmer.
John R. Kincaid, resident 27 years, district 8, section 2, Farmer.
W. M. Kincaid, resident 24 years, district 8, section 2, Farmer.
M. Wehunte, resident 50 years, district 8, section 2, Farmer.
W. R. Cook, resident 4 years, district 8, section 2, Farmer.
Edward Dilbeck, resident 29 years, district 8, section 2, Farmer.
J. W. Higdon, resident 50 years, district 9, section 2, Farmer.
L. A. Stepp, resident 20 years, district 8, section 2, Farmer.
G. A. Stepp, resident 16 years, district 8, section 2, Farmer.
W. W. Underwood, resident 21 years, district 8, section 2, Farmer.
W. C. Underwood, resident 16 years, district 8, section 2, Farmer.
John M. Thomas, resident 52 years, district 8, section 2, Farmer.
Arthur Miolen, resident 3 years, district 9, section 2, Farmer.
Anderson Cook, resident 30 years, district 8, section 2, Farmer.
W. M. Smith, resident 30 years, district 8, section 2, Farmer.
S. J. Green, resident 30 years, district 8, section 2, Farmer.
R. M. Cole, resident 14 years, district 9, section 2, Farmer.
Charlie Kincaid, resident 19 years, district 8, section 2, Farmer.
Alfred Wehunte, resident 50 years, district 8, section 2, Farmer.
J. D. Brewer, resident 5 years, district 8, section 2, Farmer.
E. H. Thomas, resident 34 years, district 8, section 2, Farmer.
Wm. M. Cox, resident 45 years, district 8, section 2, Farmer.
J. N. Stepp, resident 40 years, district 8, section 2, Farmer.
Jas. Godfrey, resident 35 years, district 8, section 2, Farmer.
Frank Burk, resident 50 years, district 8, section 2, Farmer.

Stephen Dilbeck, resident 53 years, district 8, section 2, Farmer.
P. P. Chastain, resident 20 years, district 8, section 2, Farmer and Justice Peace.
J. R. Davenport, resident 22 years, district 8, section 2, Farmer.
H. M. Anderson, resident 8 years, district 8, section 2, Farmer.
J. V. Brown, resident 5 years, district 8, section 2, Farmer.
B. M. Milsaps, resident 24 years, district 9, section 2, Farmer.
R. A. Clark, resident 12 years, district 6, section 1.

Sworn to and subscribed to before me, this January 30th, 1906.

THOS. A. BROWN,
Notary Public, Fannin County, Georgia.

IN THE SUPREME COURT OF THE UNITED STATES,

OCTOBER TERM. 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff.

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,

County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above stated case, each deposes and says as follows:

He has been a resident of said County and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property owner in said county, and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendants' furnaces. Each of deponents has by reason of his residence and the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil, and the character thereof; the streams, the timber, the various species of trees which prevail in said forests; the general values of the land for agricultural and other purposes, and the general values of the trees for lumber and timber purposes.

Each of deponents says that the land when cleared of the trees, and particularly the land which is irrigated by streams, in his particular district are fertile, readily cultivated and produce in paying quantities corn, wheat and other crops. The soil is specially adapted for the raising of what is termed market truck, such as tomatoes, corn, cabbage, etc.

Much of said county is devoted to agricultural purposes. The farms as a rule have heretofore been profitable to the owners. They have been heretofore cultivated each year and were generally in good condition.

The timber interests in said state are exceedingly large and valuable. The timber, either standing or cut, possesses a ready market. Many fine species of trees are to be found, such as the white pine, hickory, white oak, chestnut, poplar, and a large number of other varieties.

Within the past two or three years the furnaces of defendants have been smelting enormous quantitis of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is preceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents have ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of Fannin County to the knowledge of any of deponents any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or

two and a half years been a matter of repeated occurrence during each month. This vapor has been generally noticed by the citizens and residents and has caused extensive comment.

Prior to said period of time the timber in the district in which deponent lives was healthy, sound, in good condition, and there was no appearance of any cause generally affecting injuriously either the timber as a whole, or operating upon any particular species. Trees would occasionally here and there die from old age and random fires, lightning, or other individual causes. These were, however, normal occurrences, and the great body and bulk of the timber was in a normal, healthful, thriving condition.

Within the period of time mentioned and since the fumes and vapors emitted by the defendants' furnaces have been noticed in the district in which each deponent resides the general condition of the forests have changed—the timber is dying rapidly. It is no longer in a healthful condition. Much of it is dead. The percentage of dead trees to live trees has passed from a natural, normal per cent to one which is entirely unnatural and abnormal. Some of the species have become practically extinct, such as the chestnut, oak, and hickory. It is a fact that in the district in which each deponent lives these two varieties of trees have been to a large extent exterminated. These trees wither, cast their leaves in the summer long prior to the fall and die almost immediately. At the present rate of mortality of these two species it is a question of but a short time until they are absolutely exterminated in deponent's respective districts. In some of the districts of said county these trees have already become extinct.

Many other varieties of trees are showing similar effects and are dying in substantially the same way though requiring a greater length of time. Among these may be found the white pine, hemlock, white oak, the post-oak and other varieties. Enormous quantities of these varieties are now in process of dying, the leaves wither and fall prior to the natural order of things. The leaves upon the white pine turn yellow. The trees disclose to the eye at a glance that they are in process of death. Trees showing these outward signs in the late summer often do

not put out the following spring. The trees thus affected will not put out at the top. This ,the most exposed part of the tree is more quickly and readily affected than the under part which is to a greater or less extent protected by the surrounding trees and undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other cause from which the results indicated could spring than that of the haze or mist above mentioned. There is no other haze, mist, vapor or fumes in said county from any other cause. There has been during said period of time no peculiar or unusual climatic changes. There has been nothing unusual in any other physical or natural condition of affairs. There has been neither unusual drouth, nor excessive rainfall.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years in his respective district. He has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of natural life.

Deponents state that upon repeated occasions the haze or vapor mentioned above would in the spring and summer settle upon the earth and come in physical contact with the crops that have been planted. In a single night after these fumes thus described would touch the vegetation it would be either entirely destroyed or seriously injured. It would wither and turn yellow as if a heavy frost had fallen upon it though no frost had touched it.

The same effect as that above described would be noticed upon the various orchards after one or more visitations, either the fruit being entirely destroyed or the product being small, dwarfed fruit entirely unfit for use.

Deponents state that in some of the districts of Fannin County a number of farms have been abandoned because of the settling of these sulphur fumes from the defendants' furnaces upon the farm. Prior to the last few years none of these farms had to deponent's knowledge been afflicted in the way described. Said farms prior to said times had been cultivated in the usual ordinary way and produced the usual ordinary results.

Deponents state from their knowledge of farming that no farm can be successfully conducted when it is subjected to the results above indicated, and from their knowledge of such farms, the physical conditions which exist and the experiences related and had by them with the sulphur fumes, it is their opinion, based upon the facts above given, that during the coming year a very large further number of farms in said county will be abandoned. It is a fact that farming operations cannot be successfully carried on under the conditions enumerated.

Subscribed and sworn to before me this January 30, 1906.

G. D. NIXON, N. P. and J. P.

J. R. Chastain, resident 49 years, Morganton District.
R. M. Chastain, resident 66 years, Morganton District.
L. C. Smith, resident 54 years, Morganton District.
J. C. Powell, resident 32 years, Morganton District.
A. S. J. Ledford, resident 33 years, Yocoah District.
J. L. Stewart, resident 15 years, Yocoah District.
T. H. Stephens, resident 20 years, Noontootly District.
J. T. German, resident 37 years, Morganton District.
W. E. Rodgers, resident 6 years, Morganton District.
W. H. White, resident 1 year, Morganton District.
J. T. Bivins, resident 24 years, Hemptown District.
Samuel Anthoney, resident 2 years, Morganton District.
J. M. Cook, resident 28 years, Hemptown District.
John Wlson, resident 44 years, Hemptown District.
T. K. Cook, resident 28 years, Hemptown District. Farmer.
M. B. Weaver, resident 6 months, Hemptown District. Farmer.
H. E. Wilson, resident 20 years, Hemptown District.
James A. Bruce, resident 45 years, Hemptown District. Farmer.
J. R. Hunter, resident 50 years, Hemptown District. Farmer.
L. W. Bivins, resident 55 years, Hemptown District. Farmer.
J. C. Morris, resident 31 years, Hemptown District.
A. H. Morris, resident 40 years, Hemptown District.
W. O. Davenport, resident 32 years, Hemptown District. Merchant.
W. J. Hayes, resident 1 year, Hemptown District.

Adam Davenport, resident 32 years, Morganton District. Farming.
T. J. Medears, resident 30 years, Morganton District. Farming.
James R. Allen, resident 30 years, Morganton District. Farming.
R. S. Self, resident 6 months, Morganton District. Farming.
J. A. Moore, resident 50 years, Morganton District. Farmer.
R. L. Brown, resident 6 years, Hemptown District. Farming.
J. S. Chastain, resident 40 years. Morganton District.
J. E. Patterson, resident 6 years, Blueridge District.
J. B. Crawford, resident 30 years, Morganton District.
J. P. German, resident 45 years, Morganton District.
John Thomas, resident 56 years, Sugar Creek District.
W. J. Bennett, resident 38 years, Toccoa District.
W. J. Franklin, resident 34 years, Mobile District.
W. J. Ballew, resident 16 years, Mobile District.
H. J. Ballew, resident 1 year, Mobile District.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared the hereinafter subscribed parties, who, after being duly sworn in the above styled and numbered cause, depose and say in relation to said cause as follows:

Each of the deponents whose names are signed to this affidavit is a resident and citizen of and land owner in said State and county, said lands being situate within the locality affected by the sulphur fumes, smokes and noxious gases from the copper plants situated in Polk county, Tennessee, just across the State line. During the last two or three years great quantities of timber have been killed within the locality wherein deponents reside, and many crops and orchards have failed, notwithstanding the weather conditions have been favorable for their growth, and gardens have been greatly injured and often utterly ruined.

The sulphur fumes and poisonous gases now being generated by the defendants' copper plants located and operated

by defendant companies just across the Tennessee State line in Polk county, are frequently seen and observed in the vicinity in which deponents respectively reside. Not only is the presence of said fumes and gases distinguishable by their unpleasant odor, but often to the eye, the said fumes and gases having appearance of haze or vapor.

The death of the timber and vegetation, and the general ruin of the crops, orchards and gardens have occurred only since the appearance of said fumes in the localities wherein deponents reside, and the destruction of the timber, crops, gardens and other vegetation can be attributed to no other source.

If these fumes and gases are still permitted to flow over and spread out on the lands in said localities, laden as they are with great quantities of poisonous sulphur, much valuable and productive lands, if left unaffected by these deadly fumes, will be rendered practically valueless. Already some farms have been, in fact, abandoned on this account, and if said fumes are not stopped before the spring planting is commenced this year numbers of farmers in the State of Georgia, and especially in this (Fannin) county will be forced to let their farms run wild, as the same can not be profitably cultivated so long as they are exposed to the disastrous effects of these deadly and poisonous sulphur fumes generated by the defendant companies at their copper plants.

Deponents have frequently seen instances of crops growing on lands and vegetables in gardens killed in a single day or night. The smoke and sulphur fumes on such occasions would seem to come down to the earth and cling to vegetation, said fumes at these times being noticeably strongly impregnated with sulphur, and within a few hours vegetation withers and becomes blighted, although in the summer time crops and other vegetation then have the appearance of being severely frost bitten.

Deponents further say that the timber destroyed as heretofore set forth often stands on the roadsides and menaces the safety and free passage over said roads, and by cotninually

falling into said roads necessitates the frequent calling out of the road hands or other persons for the purpose of removing such dead and dying timber to keep the roads open and to prevent injury to persons passing thereon. In some sections and localities the entire timber and vegetation has been killed and destroyed, and in these localities by the killing of all the timber and vegetation the top soil, especially in hilly and sloping places, suffers greatly from washes as do, in consequence, the roads and highways, holes, gullies and washouts being caused thereby and the roads otherwise injured and damaged.

W. G. Thomas,	A. S. J. Ledford,
John Warren,	D. M. Buchanan,
L. W. Smith,	R. M. Chastain,
T. A. Terrell,	R. L. Phillips,
J. C. Long,	J. H. Long,
Homer P. Legg,	W. R. Godfrey,
W. A. Daves,	W. R. Cook.

Sworn to and subscribed to before me, this January 16th, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin County, Georgia.

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No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared, the hereinafter subscribed parties, who being duly sworn in the above styled and numbered cause, depose and say as follows: "Each deponent is a resident citizen and landowner in said county and State, said lands being within the locality affected by the sulphur fumes from the copper plants situated in Polk county, Tennessee. During the past two or three years great quantities of timber have been killed within the locality in which deponents reside, and many crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and often utterly ruined. The sulphur fumes generated by the defendant copper plants just across the Tennessee State line in Polk county are frequently in said vicinity in which these deponents reside. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of haze or vapor.

The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from said copper plants and works made their appearance in the locality wherein deponents reside, and the destruction of timber and vegetation can be attributed to no other source. If the fumes are permitted to flow over the locality in which deponents reside, laden as they are with great quantities of poisonous sulphur, much valuable property will be practically made worthless. Already some farms have been abandoned on this account, and if said fumes are not stopped before the spring planting this year, numbers of the farmers within the State of Georgia, and especially in this county, will be forced to let the farms run wild, as the same can not be made productive so long as they are subjected to the poisonous gases of the copper companies.

Deponents have frequently seen instances of crops on lands and gardens or vegetables killed in a single night or day. The sulphur fumes would on such occasions seem to suddenly come down on to the earth and cling to it, the fumes being at these times noticeably strong, and soon, or at least, within a few hours the vegetation growing on said lands and gardens is seen to wither and become blighted, and although in summer, the same would appear as though it had been severely frost-bitten.

his
J. P. X Ellis,
mark.
C. G. Baugh,
Geo. V. Cochran,
Thos. R. Johnson,
Anderson Cook,
J. T. Ledford,
S. H. Green,
Thos. Green,
C. M. Kincaid,
B. H. Seabolt,
P. M. C. Porter,
J. A. Fortner,
John E. Harper,
T. H. Crawford,
R. D. Ralston,
Wm. Grantlan,
J. R. Ballew,
R. E. Green,
D. R. Ballew,
W. D. Cruse,
John Inall,
his
John X Fanin,
mark.

James M. Davis,
J. S. Kincaid,
S. J. Genson,
his
Geo. X W. Wright.
mark.
J. L. Farmer,
his
Ralph X Berner,
mark.
M. H. White,
W. M. Woody,
S. A. Spark,
A. L. Standridge,
W. T. Panter,
A. B. Clement,
his
A. E. X Cox,
mark.
J. R. Hunter,
W. O. Davenport,
J. W. Garrison,
Adam Davenport,

M. Hecter Goss,
W. H. Genson,
J. L. Stewart,
J. C. Ledford,
his
J. B. X Brand,
mark.
his
A. M. X Wright,
mark.
W. J. Ballew,
H. J. Ballew,
H. P. Hyde,
J. A. Freeman,
his
David X Richardson,
mark.
L. C. Allen,
C. W. Lanes,
R. S. Self,
W. M. Whittle,
G. W. Bryan,
J. S. Bryan.

Sworn to and subscribed before me, this the 2d day of January, 1906.

THOS. A. BROWN,
Notary Public Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Fannin County.

Personally appeared before me, a notary public of said county and State, the hereinafter named witnesses, who being duly sworn deposes and say on oath in relation to the above styled and numbered case, that each of them are either citizens and residents of Polk county, Tennessee, or Cherokee county, North Carolina, residing near the State line between the States of Georgia and Tennessee and the counties of Fannin and Polk in the States of Georgia, Cherokee, North Carolina and Tennessee, respectively, and that each of them are well acquainted with the conditions which have prevailed in the county of Fannin, State of Georgia, for the past several years. Affiants know that lands situated in said county of Fannin have been affected by the sulphur fumes from the copper plants of defendant companies located just across the State line between the two States in the said county of Polk in Tennessee. During the last two or three years great quantities of timber have been killed in the county of Fannin, and many crops and orchards have failed,

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notwithstanding the weather conditions have been favorable, and gardens have been greatly injured and often utterly ruined.

The sulphur fumes and poisonous gases now being generated by the companies' copper plants, located as before stated, are frequently observable in the county of Fannin. Not only is the presence of said fumes and gases distinguishable by their unpleasant odor, but often to the eye, the said fumes and gases having the appearance of haze or vapor The death of the timber and vegetation, and the general ruin of crops, orchards and gardens in Fannin county, have occurred only since the said copper fumes and gases have made their appearance in said county, and can be attributed to no other source.

Deponents have frequently seen instances of crops growing on lands and vegetables in gardens in said county killed in a single day. The sulphur gases on such occasions would apparently come down upon the earth and cling to vegetation and timber, said fumes and gases at these times being noticeably strongly impregnated with sulphur, and within a few hours vegetation and the leaves of trees wither and have the appearance of having been frost-bitten.

Before the fumes and gases generated by the defendant-companies' copper plants made their appearance in said county of Fannin, as before herein stated, the lands and soil of said county were well adapted to agriculture and to the growth and production of wheat, rye, oats, corn, potatoes, cabbage, etc. But now since these various crops have been so injuriously affected by said gases, the pursuit of agriculture in said county has become unprofitable, and is becoming more so every year, and if these gases are not cared for and controlled in some way, the entire county will have to be abandoned in so far as the pursuit of agriculture is concerned. The extent of the territory in said county and adjoining counties in the States of Georgia, North Carolina and Tennessee affected by the said fumes and gases is being extended each and every year. The same conditions which prevail in

the county of Fannin, as herein above detailed, are equally true with reference to the county of Polk in Tennessee, and Cherokee in the State of North Carolina, all three of these counties being adjacent to the copper plants of defendant-companies, which are located near the line of each county, defendants being equally well acquainted with the conditions as they exist in each county with reference to the effect the said fumes and gases has had and is having upon the timber, crops, gardens, vegetation and lands of each of these counties. The residents of deponents is placed opposite the names of affiants.

J. M. Simonds, Cherokee County, N. C.
E. G. Culberson, Cherokee Co., N. C.
W. S. Johnson, Cherokee Co., N. C.
J. C. Cook, Cherokee Co., N. C.
W. C. Ballew, Cherokee Co., N. C.
J. R. Simonds, Cherokee Co., N. C.
A. J. Bell, Cherokee Co., N. C.
F. R. Carter, Cherokee Co., N. C.
A. E. Cloer, Cherokee Co., N. C.
F. A. Carter, Cherokee Co., N. C.
C. H. Hairs, Cherokee Co. N. C.
S. H. Rodgers.
W. L. Garren, Cherokee Co., N. C.
J. M. Garren, Cherokee Co., N. C.
J. W. Bell, Polk Co., Tenn.
S. N. Garren, Cherokee Co., N. C.
J. M. Withrow, Cherokee Co., N. C.
E. J. Carter.
N. A. Carter.
E. B. Carter.
F. D. Hamilton,
E. B. Cloer.
E. F. Bandy.
I. C. Cloer.

Sworn to and subscribed to before me this January 26, 1906.

THOMAS A. BROWN,
Notary Public, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared the hereinafter subscribed parties, who being duly sworn in the above styled and numbered cause depose and say as follows: "Each deponent is a resident citizen and landowner in said county and State, said lands being within the locality affected by the sulphur fumes from the copper plants situated in Polk county, Tennessee. During the past two or three years great quantities of timber have been killed within the locality in which deponents reside, and many crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and often utterly ruined. The sulphur fumes generated by the defendant copper plants, just across the Tennessee State line in Polk county, are frequently in said vicinity in which these deponents reside. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of haze or vapor. The death of the

imber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from said copper plants and works made their appearance in the locality wherein deponents reside, and the destruction of timber and vegetation can be attributed to no other source. If the fumes are permitted to flow over the locality in which deponents reside, laden as they are with great quantities of poisonous sulphur, much valuable property will be practically made worthless. Already some farms have been abandoned on this account, and if said fumes are not stopped before the spring planting this year, numbers of the farmers within the State of Georgia, and especially in this county, will be forced to let their farms run wild, as the same can not be made productive so long as they are subjected to the poisonous gases of the copper companies.

Deponents have frequently seen instances of crops on lands and gardens or vegetables killed in a single night or day. The sulphur fumes would on such occasions seem to suddenly come down on to the earth and cling to it, the fumes being at these times noticeably strong, and soon, or at least within a few hours, the vegetation growing on said lands and gardens is seen to wither and become blighted, and although in summer, the same would appear as though it had been severely frostbitten.

M. R. Williamson, Sr.,
G. M. Long,
John O. Green,
W. P. Davenport,
M. F. Davenport,
W. R. Stewart,
B. F. Davenport,
A. F. Thomas,
J. N. Patterson,
A. H. Chastain,
Gails Green,
John B. Tipton,
L. A. Vaughn,
A. J. Warn,
J. M. Halum,
Wm. H. Dunn,
John Farmer,
G. C. Stepp,
Thos. J. Wilson,
G. B. Walker,
J. F. Ledford,
E. D. Ledford,
W. G. Thomas,
J. A. Elrod,

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D. Shell,	A. F. Jones, R. T. R.,
Thomas Jenkins,	John Thomas,
W. H. Mull,	E. D. Patton,
E. J. McClure,	Wm. Roberson,
T. F. Dillingham,	T. J. Leadford,
John Merrell,	J. D. Land,
W. E. C. Curtis,	W. M. Barnes,
M. I. Mull,	W. T. Higdon,
M. R. Williamson, Jr.,	E. B. Stanley,
Wm. M. Cox,	W. T. Buchanan,
James M. Jones,	C. J. Trammell,
Jacob Weaver,	W. F. Stanley,
Samuel Young,	R. C. Miller,
J. J. Duke,	W. G. Tipton,
W. R. Patton,	W. E. Thomas,
James Roberson,	S. J. Green.

Sworn to and subscribed to before me this the 16th day of January, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared, the persons whose names are hereto subscribed, before the undersigned, a notary public for the said county of Fannin and State of Georgia, and who, after being duly sworn depose and say on oath that each of them are well acquainted with the conditions prevailing, industrially, and otherwise, in the said county of Fannin. The voting population of the county is about 2,500, and the population, all told, is about 14,000. There are in the city of Blue Ridge and the town of Mineral Bluff, the principal towns in said county, a population combined of about 2,500, the same having greatly increased within the year or two, due almost entirely to the demand for employment offered in Blue Ridge by the shops maintained there by the Louisville & Nashville railroad and other work provided along the line of this road by the said company, and to the establishment of the Blue Ridge Tannery at Mineral Bluff, which affords employment to a large number of hands. There are not more than

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three hundred of the citizens of Fannin county engaged and employed by either the Ducktown, Sulphur, Iron and Copper Company (Limited) or the Tennessee Copper Company, the defendants in the above styled and numbered case. Nine tenths of the people of said county are engaged in farming, lumbering and stock raising, but the greater number are engaged in farming. While the territory embraced in Fannin county is somewhat hilly, yet the soil for the most part is fertile and productive, especially along the numerous valleys which traverse the county, and produce the usual crops grown in this latitude to an extent equal to any other part of the State of Georgia. Some lands in this county have been known to produce from 40 to 60 bushels of corn to the acre, and from 15 to 20 of wheat.

J. R. Kincaid,	S. H. Green,
J. H. Davis,	W. C. Boling,
W. W. Findley,	B. L. Smith,
J. E. Findley,	John G. Crawford,
Stephen Griffin,	Geo. V. Cochran,
R. E. Green,	Jno. A. Wilson,
T. T. Fain,	W. A. Daves,
Thos. H. Crawford,	W. B. Lovingood,
W. A. Wilson,	P. P. Chastain.

Sworn to and subscribed to before me this January 11th, 1906.

THOS. A. BROWN,
Notary Public, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fannin.

In person appeared before the undersigned, Clerk of the Superior Court, of said county and State, Thos. A. Brown, who being duly sworn deposes and says on oath that he is a notary public in and for the said county of Fannin, and that he is acquainted with all the persons whose signatures appear to an affidavit hereto annexed, that said affidavit was signed before this affiant as such above stated notary, on this day, and that all of said persons are creditable and well-known citizens of said county; that J. R. Kincaid is Clerk of the Superior Court of Fannin county, J. H. Davis an ex-clerk of said court, W. W. Findley is a prominent citizen, J. E. Findley is a deputy sheriff of the county, Stephen Griffin is a well-known citizen, Thos. H. Crawford is the present county treasurer, W. A. Wilson, P. P. Chastain and S. H. Green are acting Justices of the Peace in and for said county, W. C. Boling is a prominent merchant of Blue Ridge, and an ex-chairman of the Democratic Executive

Committee of the county of Fannin, John J. Crawford and Geo. V. Cochran are ex-justices of the peace for said county, John A. Wilson is assistant postmaster at Blue Ridge, W. A. Daves is the present ordinary of said county, while W. B. Lovingood is the present sheriff of the county, R. E. Green is a constable and B. L. Smith is connected with the publication of *The Southern World*, a newspaper published at Blue Ridge in said county. THOS. A. BROWN.

Sworn to and subscribed before me, this January 11, 1906.

J. R. KINCAID,
Clerk Superior Court, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared the hereinafter subscribed parties, who after being duly sworn in the above styled and numbered cause, depose and say in relation to said cause as follows:

Each of the deponents whose names are signed to this affidavit is a resident and citizen of, and landowner or farmer in said State and county, said lands being situate within the locality affected by the sulphur fumes, smokes and noxious gases from the copper plants situated in Polk county, Tennessee, just across the State line. During the last two or three years great quantities of timber have been killed within the locality wherein deponents reside, and many crops and orchards have failed, notwithstanding the weather conditions have been favorable for their growth, and gardens have been greatly injured and often utterly ruined.

The sulphur fumes and poisonous gases now being generated by the defendants' copper plants located and operated by defendant companies just across the Tennessee State line in Polk county are frequently seen and observed in the vicinity in which deponents respectively reside. Not only is the presence of said fumes and gases distinguishable by their unpleasant odor, but often to the eye, the said fumes and gases having the appearance of haze or vapor.

The death of the timber and vegetation, and the general ruin of the crops, orchards and gardens have occurred only since the appearance of said fumes in the localities wherein deponents reside, and the destruction of the timber, crops, gardens and other vegetation can be attributed to no other source.

If these fumes and gases are still permitted to flow over and spread out on the lands in said localities, laden as they are with great quantities of poisonous sulphur, much valuable and productive lands (if left unaffected by these deadly fumes) will be rendered practically valueless. Already some farms have been in fact abandoned on this account, and if said fumes are not stopped before the spring planting is commenced this year numbers of farmers in the State of Georgia, and especially in this (Fannin) county will be forced to let their farms run wild, as the same can not be profitably cultivated as long as they are exposed to the disastrous effects of these deadly and poisonous sulphur fumes

generated by the defendant companies at their copper plants.

Deponents have frequently seen instances of crops growing on lands and vegetables in gardens killed in a single day or night. The smoke and sulphur fumes on such occasions would seem to come down to the earth and cling to vegetation, said fumes at these times being noticeably strongly impregnated with sulphur, and within a few hours vegetation withers and becomes blighted; although in the summer time, crops and other vegetation then have the appearance of being severely frostbitten.

Deponents further say that the timber destroyed as heretofore set forth often stands on the roadsides and menaces the safety and free passage over said roads, and by continually falling into said roads, necessitates the frequent calling out of the road hands or other persons for the purpose of removing such dead and dying timber to keep the roads open and to prevent injury to persons passing thereon. In some sections and localities the entire timber and vegetation has been killed and destroyed, and in these localities by the killing of all the timber and vegetation the top soil, especially in hilly and sloping places, suffers greatly from washes as do, in consequence, the roads and highways, holes, gullies and washouts being caused thereby and the roads otherwise injured and damaged.

G. W. Hill,	T. L. Talley,
T. T. Fain,	W. F. Thomas,
Sam McKinney,	G. W. Kellar,
J. J. McKinney,	J. A. McKiney,
Thos. F. Mathews,	J. B. Yother,
Arthur Miolin,	C. R. Russell,
Samuel Higdon,	J. E. Yother,
Leonard Higdon,	J. H. Hayes,
N. M. Green,	B. F. Burk,
Benjamin M. Tilley,	W. W. Underwood,
A. C. Styles,	John R. Ballew, Jr.
I. B. Styles,	Stephen Dilbeck,
R. L. Curtis,	A. J. Bracken,

J. M. Hall,
T. G. Hall,
B. C. Arp,
W. E. Percy,
A. W. Green,
J. L. Godfrey,
A. B. Bennett,
Jackson Patterson,
G. J. Cochran,
T. H. Noel,
A. F. Watters,
Miligan Goss,
J. A. Jones,
W. D. Mull,
G. M. Oneal,
J. G. Sosebee,
T. L. Davis,
G. W. Foster,
W. A. Vestel,
A. T. Glazner,
J. M. Watters,
I. W. Queen,
J. D. Patterson,
J. S. Sosebee,
G. W. Sosebee,
Luthur Sosebee,
G. W. A. Lanning,
J. H. Vestel,
H. A. Vestel,
J. S. Winchester,
J. F. Thomas,
James R. McKinney, P. M.
Charles R. Parks,
Reno Carroll,
Thomas Hayes,
J. N. Stepp,
James Godfrey,
J. D. Underwood,
Luthur Stepp.

Sworn to and subscribed to before me this January 13th, 1906.

THOS. A. BROWN,
Notary Public, Fannin County, Ga.

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No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,

County of Fannin.

Personally appeared the hereinafter subscribed parties, who being duly sworn in the above styled and numbered cause, depose and say as follows: Each deponent is a resident citizen and landowner or farmer in said county and State, said lands being within the locality affected by the sulphur fumes from the copper plants situated in Polk county, Tennessee. During the past two or three years great quantities of timber have been killed within the locality in which deponents reside, and many crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and often utterly ruined. The sulphur fumes generated by the defendant copper plants just across the Tennessee State line in Polk county are frequently in said vicinity in which these deponents reside. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of haze or

vapor. The death of the timber and the general ruin of the crops, orchards and gardens have occurred only since the fumes from said copper plants and works made their appearance in the locality wherein deponents reside, and the destruction of timber and vegetation can be attributed to no other source. If the fumes are permitted to flow over the locality in which deponents reside, laden as they are with great quantities of poisonous sulphur, much valuable property will be practically made worthless. Already some farms have been abandoned on this account, and if said fumes are not stopped before the spring planting this year, numbers of the farmers within the State of Georgia, and especially in this county, will be forced to let the farms run wild, as the same can not be made productive so long as they are subjected to the poisonous gases of the copper companies.

Deponents have frequently seen instances of crops on lands and gardens or vegetables killed in a single night or day. The sulphur fumes would on such occasions seem to suddenly come down on to the earth and cling to it, the fumes being at these times noticeably strong, and soon, or at least within a few hours, the vegetation growing on said lands and gardens is seen to wither and become blighted and, although in summer, the same would appear as though it had been severely frost-bitten.

W. P. Davenport,
H. Davenport,
G. M. Richard,
C. D. Davenport,
A. M. Brackett,
M. A. Brackett,
D. Y. Nichols,
S. G. R. Allen,
Thos. Cook,
his
David X Dickey,
mark.

J. W. Hickey,
E. G. Grantham,
R. M. Bryan,
P. M. Mashburn,
C. G. Dillingham,
H. E. Wilson,
B. M. Wise,
B. D. Roberts,
his
Wm. X Bailey,
mark.
H. B. Thomas,

R. H. Abercrombie,
T. L. Ray,
M. A. Hill,
Joseph Green,
Larkin German,
his
Mack X Dobson,
mark.
A. H. Morris,
J. J. Cordell,
E. L. Prince, M.D.,
J. B. Ross,
G. A. Rhodes,
W. T. S. Dickey,
his
P. L. X Hutterson,
mark.
E. L. McAlister,
W. J. Witt,
C. L. Owenby,
A. G. Roberson,
W. T. Mull,
T. W. Davis,
H. M. Ellis,
W. J. Hayes,
W. M. Ledford,
M. J. Barnes,
J. J. Todd,
B. F. Kincaid,
J. W. Wishon,
his
Burton X Wilson,
mark.
J. C. Dillard,
D. Whiteside,
his
J. T. X Green,
mark.
Johnson Wilson,
J. W. Chapman,
L. C. Chapman,
M. T. Buchanan,
his
Arthur X Henson,
mark.
W. I. Lewis.

Sworn to and subscribed to before me, this the 6th day of January, 1906.

THOS. A. BROWN,
Notary Public, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared the undersigned and hereinafter subscribed parties, who being duly sworn in relation to the above styled and numbered cause, depose and say that each of us are citizens and residents of said county and State, and that during the past two or three years great quantities of timber have been killed within the locality in which deponents reside, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the defendant copper companies' plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of haze and vapor.

The death of the timber and the general ruin of crops, orchards and gardens have occurred only since the fumes from

the copper-works made their appearance in the locality wherein deponents reside, and can be attributed to no other cause than the deadly fumes and gases generated by these copper plants.

T. N. Thomas,	G. A. Curtis,
R. C. Miller,	W. A. Wilson,
Hix Caster,	J. E. Findley,
Wm. M. Wilson,	Jno. A. Wilson,
W. A. Boling,	his
J. R. Willis,	William X Perice,
R. S. Odom,	mark.
F. C. Willis,	T. N. Willis.

Sworn to and subscribed before me, this December 27, 1905.

THOS. A. BROWN,
Notary Public, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared the undersigned and hereinafter sub-

scribed parties, who being duly sworn in relation to the above styled and numbered cause, depose and say that each of us are citizen and residents of said county and State, and that during the past two or three years great quantities of timber have been killed within the locality in which deponents reside, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the defendant copper companies' plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of haze and vapor.

The death of the timber and the general ruin of crops, orchards and gardens have occurred only since the fumes from the copper works made their appearance in the locality wherein deponents reside, and can be attributed to no other cause than the deadly fumes and gases generated by these copper plants.

W. G. Owenby,	Edgar W. Butt,
C. M. Butt,	A. P. Johnson,
W. D. Cotter,	H. Arp,
M. A. McBeger,	T. A. Terrell,
W. H. Wilson,	W. M. Allen,
J. A. Tipton,	E. W. Riverside,
J. A. Jones,	W. W. Findley.

Sworn to and subscribed before me, this December 28, 1905.

THOS. A. BROWN,

Notary Public, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Fannin.

Personally appeared the undersigned and hereinafter subscribed parties, who being duly sworn in relation to the above styled and numbered cause, depose and say that each of us are citizen and residents of said county and State, and that during the past two or three years great quantities of timber have been killed within the locality in which deponents reside, crops and orchards have failed, notwithstanding weather conditions have been favorable, and gardens have been greatly injured and frequently ruined.

The sulphur fumes generated by the defendant copper companies' plants at and near Ducktown, Tennessee, are frequently noticeable in said vicinity. Not only is the presence of said fumes distinguishable by their unpleasant odor, but often to the eye, the smoke and fumes having the appearance of haze and vapor.

The death of the timber and the general ruin of crops, orchards and gardens have occurred only since the fumes from

the copper works made their appearance in the locality wherein deponents reside, and can be attributed to no other cause than the deadly fumes and gases generated by these copper plants.

Wade Allen,	John F. McNelley,
James P. Aaron,	his
A. F. Christopher,	J. M. X Davis,
J. M. Ledford,	mark.
John Baugh,	Will R. McNelly,
M. Farmer,	D. M. Fisher,
John Davis,	John Ray,
his	W. S. Hunter,
J. A. X Kaylor,	A. J. Sosebie.
mark.	H. G. Dickey,

Sworn to and subscribed before me, this December 27, 1905.

THOS. A. BROWN,
Notary Public, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
Towns County.

Personally appeared the undersigned, who being sworn in

the above stated case, each deposes and says as follows: He lives in the above stated county and in the section and district set forth opposite his name. He has resided in said county for the number of years which is likewise set opposite his name. Each of deponents is a property owner in said county, and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendant's furnaces, and has frequently observed the sulphur fumes or vapor emitted from said furnaces.

These fumes are of a somewhat whitish or grayish color, sometimes resembling a haze or mist. These fumes or mist have an exceedingly unpleasant odor, which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in the direction from the premises of defendants, these fumes appear to have considerable cohesive qualities, and float in the air great distances. Frequently these fumes, after drifting through the air, having the general appearance of a cloud, will settle towards the earth, coming in contact with the trees and smaller vegetation.

Further, that each of deponents has at various times smelled the sulphur fumes in the air, and to the knowledge of each of deponents there is not in any section of Towns county any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does or could, produce either such haze, vapor or odor.

Each of deponents has, by reason of his residence and to the particular occupation in which he is now engaged, become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil, and the character thereof; the streams, the timber, the various species of trees which prevail in said forests, the general value of the land for agricultural and other purposes, and the general market value of the trees.

The timber, consisting of white pine, hickory, white oak, chestnut, poplar and a large number of other varieties, is one

of the natural resources of the county and, either standing or cut, possess a ready market.

There has been no unnatural change in physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has neither been unnaturally hot or unnaturally cold, and there has been no unusual drought or excessive rainfall during the past few years.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years in his respective district, and he has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of life.

NAME	YEARS OF RESIDENCE	DISTRICT	SECTION	OCCUPATION
H. C. Kerby	40	990	1	Farming.
O. C. Wyly	22	990	1	Merchant and farmer.
J. T. Kimsey	62	990	1	Farmer.
J. W. Hyatt	26	17	1	Farmer.
J. N. Winchester	31	17	1	Farmer.
J. Y. Cathey	49	17	1	Farmer.
C. C. Alston	49	17	1	Farmer.
E. H. Kimsey	49	17	1	Farmer.
T. H. Garrett	49	17	1	Farmer.
E. M. Sellers	38	18	1	Farmer.
T. L. Sims	46	18	1	Farmer.
T. H. Wood	35	18	1	Farmer.
J. W. Foster	53	18	1	Farmer.
J. D. Reed	25	18	1	Farming.
Jesse M. Rice	18	18	1	Farming.
J. L. Chastine	37	17	1	Farming.
W. I. T. Ramey	29	17	1	Farmer.
J. C. Penland	32	17	1	Farmer.
J. M. Welch	40	17	1	Merchant.
John S. Kimsey	39	17	1	Farmer.
J. T. Nichols	48	17	1	Farmer.
A. T. Silvey	18	17	1	Farmer.
J. J. Wood	58	17	1	Farmer.
W. L. Hooper	20	18	1	Farmer.

Subscribed and sworn to before me, this 27th day of March, 1906.

JOHN H. DAVIS,
N. P., Towns county, Ga.

Commission expires on March 26, 1907.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Towns County.

Personally appeared the undersigned, who, being sworn in the above stated case, each deposes and says as follows: He lives in the above stated county and in the section and district set forth opposite his name. He has resided in said county for the number of years, which is likewise set opposite his name. Each of deponents is a property owner in said county, and each is engaged in the business set opposite his name.

Each of the deponents is familiar with the location of defendant's furnaces and has frequently observed the sulphur fumes or vapor emitted from said furnaces.

These fumes are of a somewhat whitish or grayish color, sometimes resembling a haze or mist. These fumes or mist have an exceedingly unpleasant odor, which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in the direction from the premises of defendants, these fumes appear to have considerable cohesive qualities and float

in the air great distances. Frequently these fumes after drifting through the air, having the general appearance of a cloud, will settle towards the earth, coming in contact with the trees and smaller vegetation.

Each of deponents has frequently, while traveling through Union county, observed the sulphur fumes floating in the air, and have also at times known of its presence in that county by the strong and disagreeable odor. Further, that each of deponents, while in Towns county, has at various times smelled the sulphur fumes in the air, and to the knowledge of each of deponents there is not in any section of Towns or Union counties any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could, produce either such haze, vapor or odor.

Each of deponents has, by reason of his residence and to the particular occupation in which he is now engaged, become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil, the streams, the timber, the various species of trees which prevail in said forests, the general value of the land for agricultural and other purposes, and the general market value of the trees.

The timber, consisting of white pine, hickory, white oak, chestnut, poplar and a large number of other varieties, is one of the natural resources of the county, and either standing or cut possess a ready market.

That a few years ago the timber in the eastern part of Union county was in a healthy and vigorous condition, containing only the ordinary and natural per cent. of dead timber, such as trees which had died from old age, from being girdled, burned or struck by lightning. Since these fumes have been emitted by the defendant companies a marked difference has occurred in the character of said timber. The per cent. of said timber has greatly increased.

That each of deponents has observed, while traveling to Ducktown, the nearer you approach that point the more unhealthy and sickly the vegetation becomes, and that it is the

opinion of each of deponents that the territory containing the unhealthy and sickly looking trees is gradually extending in the direction of Towns county. Deponents do not know of any other source from which the results indicated could spring than that of the fumes or vapor above mentioned.

There has been no unnatural change in physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has neither been unnaturally hot or unnaturally cold, and there has been no unusual drought or excessive rainfall during the time indicated.

Each of deponents has been ordinarily familiar with the usual insects and bugs, which have been found for many years in his respective district, and he has not within the past two or three years noticed or observed anything unusual, either in number or variety of this form of life.

NAME	YEARS OF RESIDENCE	DISTRICT	SECTION	OCCUPATION
J. B. Johnson	34	990	1	U. S. D. M.
Geo. W. Gibson	40	990	1	Saw-milling.
J. P. Burong	20	1264	1	Farmer.

Subscribed and sworn to before me, this 27th day of March, 1906.

Commission expires on March 26, 1907.

JOHN H. DAVIS,
Notary Public, Towns county, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

GEORGIA, Fannin County.

Personally appeared before the undersigned, a notary public in and for said county and State, J. J. Cordell, who, after being duly sworn, deposes and says in relation to the above styled and numbered case, that he is personally acquainted with J. E. Lindsay, J. T. Jones, J. M. Parker, W. A. Ledford, H. Roberts, L. E. Richard, C. H. Whites, John White, W. A. Calhoun, Gus Smith, T. B. Turner, L. C. Turner, W. W. Hilbeck, J. E. Wilson, M. D. Richards, H. Richards, J. W. King, W. M. Falls, C. G. Smith, C. J. Watson, J. B. Ricketts, W. McFarland, G. Standridge, F. E. Garner, G. L. Baker, L. C. Williams, W. A. Smith, A. H. Shope, W. E. Bartley, R. L. Turner, F. E. Hickey, S. M. Falls, J. L. Williams, J. E. Newton, F. A. Bailey, James Chastain, S. O. Sutton, O. P. Tillery, W. F. Ellis, L. T. Jones, Bur. Dooley, N. C. Garren, R. M. Kaylor, H. R. Todd, A. S. Jones, G. W. Patterson, Joe Dilbeck and W. A. Williams, the persons whose names are signed to a certain affidavit made before C. G. Hyatt, notary public for Polk county Tennessee, on the 11th day of November, 1905, and by 75 other persons,

and as the said affidavit appears on pages 114, 115, 116 and 117 of the published argument, brief and exhibits of defendant Tennessee Copper Company on application of plaintiff for preliminary restraining order, filed by Howard Cornick and John H. Frantz, attorneys for Tennessee Copper Company, and Martin H. Vogel, of counsel, in said above styled and numbered case—and that each of said above named persons were at the time said affidavit was made in the employ of the Tennessee Copper Company, one of the defendants in the said above styled and numbered case.

his
J. J. X CORDELL.
mark.

Sworn to and subscribed to before me, this January 10, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

GEORGIA, Fannin County.

Personally appeared before the undersigned, a notary public

in and for the said county and State, William J. Witt, who, after being duly sworn, deposes and says on oath in relation to the above named and styled case, that he is a citizen and landowner of said county, and for a number of years was in the employ of the Tennessee Copper Company, one of the defendants in the above stated case, as one of its foremen, and that he has had fine opportunity to know the persons employed by said company, as well as the Ducktown Sulphur, Copper and Iron Company (Limited), the other defendant. Affiant says that he has examined the affidavits filed by 125 persons, who claim to be residents of Fannin county, Georgia, and by 174 other persons claiming to be citizens and residents of Georgia, both made before G. G. Hyatt, Notary Public, Polk county, Tennessee, on the 11th day of November, 1905, as they appear on pages 114, 115, 116, 117, 125, 126, 127, 128 and 129 of the published "Argument, Brief and Exhibits of Defendant Tennessee Copper Company on Application of Plaintiff for Preliminary Restraining Order," filed by Howard Cornick and John H. Frantz, attorneys for Tennessee Copper Company, and Martin H. Vogel, of counsel.

Deponent was a foreman in the employment of the Tennessee Copper Company from about June 10, 1901, until about April 10, 1904.

During this period of time deponent was constantly and daily engaged within the scope of his business. The position indicated brought him into contact with substantially every employee of said Tennessee Copper Company. He became personally acquainted with them. Of the 299 persons mentioned in the foregoing affidavits 154 are now, or have been until recently at various times in the service of said Tennessee Copper Company, or of the Ducktown Sulphur, Copper and Iron Company. The furnaces of the two companies are but a few miles apart, and intercourse between the employees of the two companies was frequent. Not only was deponent familiar with the employees of the company by whom he was engaged, but

he likewise became personally acquainted with nearly all of the employees of the other company.

The persons making said affidavits, who were personally known to this deponent to be in the service of one or the other of the companies, are as follows: E. P. Galloway, W. D. Odary, J. E. Lindsay, J. T. Johnson, J. M. Parker, H. L. Henson, J. H. Campbell, R. B. Bennett, W. A. Ledford, H. P. Bennett, H. Roberts, L. E. Richards, C. H. Whites, John White, John Roberts, H. T. Weese, W. A. Calhoun, Gus Smith, H. Smith, T. B. Turner, L. C. Turner, W. W. Hilbeck, J. E. Wilson, M. D. Richards, A. T. Paden (who lives in Tenn.), J. W. King, O. G. Paden, C. C. Smith, O. M. Bulridge, C. J. Watson, W. McFarland, E. Block, W. S. Callahan, M. L. Burn, G. L. Baker, W. H. Robinson, L. B. Hughes, B. C. Wright, T. A. Armtreck, W. T. Stiles, J. C. Qeen, J. B. Troutham, L. C. Williams, W. G. Davis, A. H. Shope, J. D. Thomason, W. E. Bartley, R. L. Turner, F. E. Hickey, L. M. Tanner, J. F. Brown, L. F. Weeks, H. D. Pence, S. M. Falls, I. L. Williams, J. E. Guy, J. E. Newton, F. A. Bailey, F. M. Cagle, M. H. Cole, E. M. Flowers, Jas. Chastain, O. P. Tilery, W. F. Ellis, L. T. Jones, B. B. Bearden, Bur. Dooly, N. C. Garren, W. A. Kell, W. C. Skelton, R. B. Stuart, J. J. Kiker, R. H. Kaylor, A. S. Jones, W. A. Patterson, C. W. Patterson, John Hayes, H. Hayes, T. D. Owen, Joe Dilbeck, W. A. Williams, W. H. Ross, Avery A. Brown, M. D. Cole, J. D. Mason, W. B. Mayson, J. D. Carroll, E. J. Hyatt, J. M. Standridge, T. M. King, W. M. Turner, C. C. Collins, E. J. King, B. M. Holland, Geo. P. Fortner, P. F. Dean, R. C. Freeman, G. B. Standridge, M. A. Cole, P. C. Bailey, H. W. Ross, J. A. Tarpley, J. Lowery, J. M. Arp, W. M. Parr, W. W. Batts, I. O. Sisson, John Lowery, P. O. German, L. A. German, G. W. Carter, H. T. Branton, A. B. Henry, T. D. Arp, G. M. Bryant, R. M. Queen, Joe Green, J. W. Standley, J. M. Edwards, James Edwards, W. T. Elrod, W. H. Qeenry, H. F. Huffman, T. G. Qeen, A. S. Holden, L. M. Chastain, O. L. Tarpley, R. B. Turner, F. A. Tipton, E. A. Kiker, J. W. Lance, M. Elrod,

W. W. Fain, W. M. Curtis, A. G. Anderson, N. L. Suits, W. A. Batts, W. M. Grizzle, J .W. Edwards, C. W. Hensley, E. E. Abernathey, A. S. Roach, L. F. Christie, W. M. Stephenson, J. M. Cooper, G. W. Gaddis, G. W. Stewman, J. C. Ramy, J. P. Ramy, C. C. Abernathey, John Roach and A. B. Davis. Affiant knows that many persons who bore and were known by the surnames of persons whose names are signed to said affidavits were and are in the employ of defendants, but he does not know them by the initials which are so signed to the said affidavits.

Deponent says that not only was he personally familiar and acquainted with the employees of said company, but in pursuance of his duties had become acquainted with a great many persons collaterally connected with the defendants, such as teamsters, contractors, persons who hauled for said company and otherwise had business relationships with them.

Out of the foregoing affidavits the following maker thereof, to wit, Davis Merrell, has been engaged in hauling for said companies, and has frequently had business relationships with the said company, which relationships brought him in close touch with said company.

Deponent knows of none of said persons making said affidavits whose vocation is that of farming, lumbering, or stock-raising in the State of Georgia. Each and all of said persons were either employees of said company or engaged in doing business with said company, and who to a very large extent, if not entirely, are dependent for their livelihood upon the conduct of the business of said company

WILLIAM J. WITT.

Subscribed and sworn to before me, this January 27, 1906.

THOS. A. BROWN,

Notary Public, Fannin county, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

GEORGIA, Fannin County.

Personally appeared before me, Thos. A. Brown, a notary public in and for said county and State, an officer of said State duly authorized to administer oaths, Walter O. Davenport, who, after being duly sworn, deposes and says in reference to the above styled and numbered case as follows: Deponent is a merchant and resident of said county and State, and has been doing business at his residence at Hemp, a postoffice in said county, about four and one-half miles from Morganton, Ga., and about eighteen miles from Isabella and McCay, Tennessee, where the furnaces of the above stated defendants are located. During the summer and fall of the last three or four years he has observed the fumes and gases generated at the copper furnaces of said defendants, located as aforesaid, in his community and at his residence and store at Hemp, Ga. Deponent knows that said fumes seen by him as aforesaid were generated by the defendants and at their furnaces, because he is familiar with their peculiar odor and character, and for the further

reason there are no other manufacturing plants or enterprises within many miles of his residence and store or the location of the furnaces of said defendants which generate and throw off into the atmosphere any such fumes and gases.

Deponent further says that he knows, and is personally acquainted with, Capt. C. L. Hensley, who formerly resided in Fannin county for several years near the store and residence of deponent, and for a part of the time in the same house with deponent. Capt. C. L. Hensley is the same person who made an affidavit in behalf of the defendants in the above styled and numbered case at Knoxville, Knox county, Tennessee, in which he stated that he had not seen or observed any fumes from said copper plants of defendants in Fannin county, or words to this effect. Deponent says that while Capt. Hensley was living in the same house with deponent at Hemp, Fannin county, Georgia, we had frequent talks about the appearance of these sulphur fumes from the plants of defendants in and about the store and residence of deponent, where Capt. Hensley was then living, and about the effect said fumes and sulphur smoke was having upon timber and vegetation in the county of Fannin. It was the opinion of both of us that the fumes so observed by us came from said furnaces of defendants located as aforesaid, and that the said sulphur smoke and fumes were injuring timber and vegetation not only at our place of residence, but to even a very much greater extent in other portions of the county and nearer to Isabella and McCay, Tennessee, where said furnaces are now located.

WALTER O. DAVENPORT.

Sworn to and subscribed before me, this April 11, 1906.

THOS. A. BROWN,

Notary Public, Fannin county, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
Union County.

Personally appeared before me the undersigned authority, S. Y. Jarrett, who, being first duly sworn herein, on his oath did say:

That he is a resident of Union county, State of Georgia; that he is the duly elected and qualified Ordinary of said county. That he is the legal custodian of the tax digests of the county, and that said digests show who are citizens of the county, and the amount, kind and value of the property owned by each citizen.

That he is informed the defendants in the above entitled matter heretofore filed an affidavit, dated November 11, 1905, and signed by a large number of people; which said affidavit sets forth, among other things, that the signers are residents and citizens of said county of Union, State of Georgia.

That this deponent has carefully examined both the wild and improved tax digests of said county for the year 1905, and finds that of the signers of the above mentioned affidavit the

following appear on said digests, but return no property whatever for taxation:

Chas. W. Griffies,	L. C. Chastain,
J. E. Morgan,	J. A. Thomason,
B. L. McBee,	G. D. Tanner,
J. R. Viles,	L. F. Turner,
R. N. Donaldson,	J. T. Dyre,
T. C. Helton,	J. G. Butt,
M. Voiles,	W. E. Dean,
J. C. Turner,	A. Jordan,
H. A. Holbrooke,	Z. V. Rogers.

Further, that of the signers of said affidavit the following do not appear on said tax digests of said county:

W. A. Turner,	J. T. Cealley,
J. A. Hallbrook,	M. C. Helton,
W. P. Balher,	G. L. Palmer,
J. N. Nix,	W. A. Jackson,
E. W. Chapman,	I. L. Patterson,
M. G. Cobb,	J. W. Hilton,
W. P. Seagroves,	J. P. Cewsley,
T. S. Donaldson,	J. W. Galloway,
J. M. Nix,	A. L. Teague,
E. Woody,	W. T. Maffey,
M. L. Odom,	Beerly Cobb.

Further, that of the signers of said affidavit the following appear on said tax digests and return for taxation the amount of property set opposite their names:

G. J. Jackson,	$ 36.00	A. P. Kincaid,	$ 5.00
J. O. Rider,	175.00	W. J. Rider,	238.00
W. F. Donaldson,	115.00	T. M. Gillespie,	684.00
J. C. Fortenbery,	130.00		

S. Y. JARRETT,
Ordinary, Union county, Georgia.

Subscribed and sworn to before me, this 31st day of March, 1906.

W. E. CANDLER, N. P.,
Union county, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared before the undersigned, Dr. St. Joseph B. Graham, who, first being duly sworn in the above styled and numbered cause, deposes and says:

That he is forty-one years of age, an active practicing physician, located at Savannah, Georgia. That he is a graduate of the Medical Department of the University of Louisville, Kentucky. That prior to this he was for three years first assistant to the late Thomas William Tobin, professor of chemistry at the Louisville Polytechnic Society, Louisville, Kentucky; that he is a graduate of New York Polyclinic; later a post-graduate in medicine and higher branches of allied science of the University of Heidelberg, Germany. Also studied in the Pasteur Institute, Paris, France; also had three years' experience as assistant physician at Blackwell's Island, New York; also served for three years as chief quarantine officer in the service of the United States Government, and the city of Savannah, at

port of Savannah, Georgia. Was also editor of the Georgia Journal of Medicine and Surgery.

Deponent is, by means of his experience and research, an expert on the subject of sulphur dioxid and its effects on vegetation, having especially handled and used this gas continuously as a method of disinfecting infected and suspected ships and cargoes, pursuant to my duties as quarantine officer, above referred to. Deponent is thoroughly familiar with the manufacture, chemical qualities, appearance, odor and chemical properties of this gas in its various strengths, and its direct effect on organic life.

Deponent has repeatedly observed this gas free in the atmosphere at Ellijay, Georgia, in very large quantities. This was particularly noticeable on the night of the 17th of March, just past. On which occasion the atmosphere was heavy and damp, with direct northerly wind. This sulphur dioxid was apparent in sufficient quantities, on the several occasions above referred to, to undoubtedly produce death and consequent decay of timber and vegetation.

Deponent knows that sulphur dioxid present in the quantities observed by him at Ellijay, Georgia, and vicinity, is bound to produce destruction of timber and vegetation, and this, afterwards naturally molding and decaying, will pollute and contaminate the streams, springs and other water-supply sources, and is no doubt the cause of many of the epidemics of typhoid and other fevers that this otherwise healthy mountain country has been subject to in the recent past. Deponent conducts a private laboratory in Savannah, Georgia, for the examination and analysis of waters and other suspected material from sources suspected of producing typhoid or other intestinal and infectious diseases, and in consequence is thoroughly familiar with same.

If the present fumes be doubled the damage to North Georgia will be increased in proportionate ratio. It is deponent's opinion that if this sulphur dioxid is liberated from a stack 325 feet high that it would only be carried and distributed further

into the territory of this State, should the winds be this way. At the same temperature sulphur dioxid is heavier than air, and same coming in contact with the watery vapor in the air produces by a chemical action $H_2 SO_3$, or sulphurous acid gas, which is 2.21 times heavier than atmospheric air. Drifted by the prevailing winds it eventually falls to the earth by its greater weight, and covering vegetation as by a blanket, thus destroying its vitality. Sending these fumes higher into the air can in no manner prevent this taking place, and the higher the fumes are first sent the further they will drift away from the furnaces if the air be stirring, and will thus be further distributed into Georgia territory.

St. J. B. Graham, M.D.

Sworn to and subscribed before me, this the 26th day of March, 1906.

W. T. Pirkett,
Notary Public, Gilmer county, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Fulton.

Personally appeared C. H. Arnold, who, first being sworn in the above styled and numbered cause, deposes and says:

That he owns 1,200 acres of land in Gilmer county, Georgia, situated about five or six miles northeast of Ellijay, Ga.

The defendant further states that he has about twenty thousand apple and peach trees on the above land; and he also states that 300 to 400 acres of the land is cleared, a large portion of which is very fertile, yielding good crops every year, and has grown as high as 636 bushels of Irish potatoes per acre.

The defendant further states that a large portion of the timber on said land is dying each year, and he believes the cause is the smoke from the Ducktown furnace, which is located in Tennessee, and unless said cause is eliminated the timber will soon be destroyed. I believe my apple and peach trees will die.

(Seal) C. H. ARNOLD.

Subscribed and sworn to before me, this 7th day of April, 1906.

EDW. T. TURNIPSEED,
Notary Public.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA,
County of Campbell.

Personally appeared W. H. Hill, who, first being sworn in the above styled and numbered cause, deposes and says:

That he owns about 1,200 acres of land about two miles northeast of Ellijay, Gilmer county, Ga., and has six or seven thousand apple and peach trees on the above land.

He further states that he has about 150 to 200 acres of cleared land, which is cultivated and yields satisfactory crops every year.

He further states that the timber on the said land is dying rapidly, and he believes the cause is the smoke from the Ducktown furnace, which is located in Tennessee, and unless said cause is eliminated the timber will soon be destroyed.

(Seal) W. H. HILL.

Subscribed and sworn to before me, this 7th day of April, 1906.

EDW. T. TURNIPSEED,
Notary Public.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF MONTANA,
County of Missoula.

Comes W. D. Harkins, who, being duly sworn in the above outlined cause, on oath says:

He is a chemist by occupation, and is now and for the past six years has occupied the chair of chemistry at the University of Montana. In his capacity as chemist he, during the years 1902, 1903, 1904, 1905 and 1906, made an examination of the Washoe Smelter at Anaconda, Montana, and also visited other smelters at Salt Lake, Utah; Butte, Montana; Great Falls, Montana, and Keswick, California, to determine the effects of low and high stacks upon the distribution of arsenic, copper, lead, sulphur dioxide, sulphuric acid and other substances over the surrounding regions, these substances being the products of the smelting of sulphides of copper.

The investigation was made particularly with reference to the effects of high and low stacks at the Washoe Smelter. In this smelter the stacks formerly in use, four in number, and each about two hundred and twenty feet in height, were re-

placed in 1903 by one large flue and stack. The new stack is 300 feet in height, but the flue gives an added vertical height of about four hundred feet. The smoke is now discharged at a point about five hundred feet higher than the previous points of discharge. The point of discharge is now about one thousand feet above the floor of the valley, the smelter itself being located upon a hill.

The general result of this investigation, and of my other observations, shows that the general effect resulting from the increase in the height of a stack is to decrease the damage to the plants in the locality adjacent to the stack, and to spread the damage over a greater area, thus increasing the damage over an area lying at a greater distance from the foot of the stack.

The change from heap roasting to the use of a stack to carry off the smoke would be a change in the same direction as the change from a low stack to a high one, and would tend to decrease the injurious effects near the plant, and to increase the damage at more remote points.

The gas escaping from such stacks has a greater density than air, due to the presence of sulphur dioxide, sulphuric acid, carbon dioxide, solid matter, etc., and even the watery vapor, which in the stack tends to make the gases lighter, may, on condensation by cooling after leaving the stack, also increase the specific gravity of the smoke. The smoke, then, on coming to the temperature of the air, becomes heavier than the air, and, therefore, the smoke stream tends to fall again, and to strike the ground, often at a considerable distance from the foot of the stack; sometimes at the very foot of the stack. Gases of the density of sulphur dioxide diffuse into air with extreme slowness, so that the only chance for the dilution of the smoke, and thereby of the sulphur dioxide, is the mixing of the gas as a whole, due to winds or to friction between the smoke and the surrounding air. On this account the gas escaping from a chimney will often carry in a concentrated form to a greater

distance as a "smoke stream" than it would if discharged from several points.

A high stack also increases the danger, in a hilly country, of the smoke dropping from a height to which it has risen over a hill and into the country beyond, thus injuring a region which might be entirely protected by the hill from damage by the smoke from a low stack or heap.

The answer to a question as to whether the change from a low stack to a high one would be beneficial on the whole to the surrounding country would be impossible without a study of the local conditions. The results of such a change would depend upon the character of the surrounding country; the relative value of property near the smelter and farther away from it, the extent of the region already damaged, the topography of the surrounding country, the prevailing winds, the seasons during which they blow, and still other factors.

W. D. HARKINS.

Sworn to and subscribed before me, this 13th day of April, 1906.

JOHN M. EVANS,
Notary Public in and for Missoula county, Montana.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared before me, the undersigned Notary Public in and for Gilmer county, State of Georgia, D. A. Jones, who, first being duly sworn, deposes and says: That he is a duly qualified notary public of Gilmer county, Georgia. That he has carefully examined the affidavit filed by seventeen persons who swear they are citizens of Gilmer county, Georgia, before one G. G. Hyatt, notary public, Polk county, Tenn., which affidavit is printed in full in and appears on page 1 of the published "Argument, Brief and Exhibits of the Defendant, Tennessee Copper Co., on Application of Plaintiff for Preliminary Restraining Order." This affiant says that he made a full, careful, exhaustive and complete examination of the Tax Digest of Gilmer county for the year 1905 as now on file in the office of the Ordinary of said county, and that there he could only find four of the said persons appearing thereon as taxpayers, viz., J. A. Fowler, who pays on household goods $20.00; J. E. Cochran, who pays on lands $20.00 and personal

property $93.00; John Wright, who pays on land $100.00 and personal property $28.00, and Frank L. Jones, who is credited with $1.00 poll tax. Affiant further says that he is reliably informed that the said G. G. Hyatt, who purports to have signed said affidavit of notary public, is in fact attorney-at-law for one, if not both, defendant companies.

D. A. JONES.

Sworn to and subscribed before me, this January 12, 1906.

C. S. ALLEN, N. P.,
Notary Public for Gilmer county, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

GEORGIA, Gilmer County.

Personally appeared before the undersigned, W. F. Hampton, who, first being duly sworn in the above styled case, deposes and says:

That he is a regular ordained minister of the Georgia Conference of the M. E. Church. That he is now an active pastor in charge of the Epworth and Blue Ridge circuits of Fannin

county, Georgia, which circuits he has been in charge of now going on two years. During all this time the duties of his position carry him over and through a large part of Fannin county, and that he is brought directly in contact with farmers, lumbermen and the general interests of this community. Deponent has been acquainted with this section intimately through his association with Epworth College and his pastoral duties now going on five years.

Deponent knows that recently all vegetation throughout this district shows, more or less, the evil effects of some very severe pestilence or blight, that the timber, fruit trees and crops are all more or less affected, and it is the deponent's belief that all of this damage has been caused solely and entirely by the fumes generated by the copper plants located across the line in Tennessee. The deponent has often seen these fumes in the neighborhood, as they are easily distinguishable by their color and odor, and are always more or less present and noticeable in this district whenever the wind happens to be from the direction of defendants' furnaces and smelters. Deponent is well acquainted with these fumes; has often been to the plants of the defendants and come immediately in contact with them. They have a very peculiar odor, and when once one becomes well acquainted with them there is no possible chance of ever getting them confused with any other gases, fumes or odors anywhere in this mountain country, as there is no other such fumes or gases being produced, or that could be produced, in any part of this country anything like them.

Deponent has often heard his parishioners complain bitterly of the presence of these fumes, and complain of the loss of their crops, fruit and timber, which would often be accomplished by them in a single night. Deponent knows of his own personal knowledge where these fumes have settled down and killed beans, peas, tomatoes and potatoes in a single night. Deponent knows of instances where large, thrifty, and to every outside appearance, healthy forest trees have had their leaves blistered, seared and killed by these fumes and these leaves to

have been shed by said trees in midsummer, and the trees to put out a second crop of leaves the same season, to be again killed by the fumes, which would usually result in the death of the trees, as when thus affected they would rarely put out leaves again.

Deponent knows that these fumes causing the destruction of the timber have made the roads dangerous for travel in many places on account of the dead timber falling across said roads and endangering the public using them. Deponent further states that these fumes, as they are now spread over this country, are acting as a great hindrance, blight and damper on all agriculture, farming, fruit raising and other allied interests in every line and are holding back, retarding and ruining the whole of this section, and will so continue to do, and the damage will increase as long as these fumes are liberated as they now are by said copper companies.

W. F. HAMPTON.

Sworn to and subscribed before me, this the 19th day of March, 1906.

W. T. PICKETT,
Notary Public, Gilmer County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

GEORGIA, Fannin County.

Personally appeared before me the undersigned, a notary public in and for the county of Fannin, State of Georgia, D. A. Jones, who, being first duly sworn, deposes and says that he has examined the affidavit filed by one hundred and twenty-five persons before G. G. Hyatt, a notary public for Polk county, Tennessee, on the 11th day of November, 1905, which affidavit is printed in full in, and appears on page 114 of the published "Argument, Brief and Exhibits of Defendant, Tennessee Copper Company, on Application of Plaintiff for Preliminary Restraining Order," filed by Howard Cornick, John H. Frantz, attorneys for Tennessee Copper Company, and Martin H. Vogel, of counsel, and in which said named affiants claim they "are residents and citizens of Fannin county, in the State of Georgia"; and this affiant further says that in connection with the Hon. W. A. Daves, ordinary of said county of Fannin, he made a full, careful, exhaustive and complete examination of the tax digest of Fannin county for the year 1905, now of file in the office of said ordinary for said county, and that only

the names of twenty-six of the persons who purport to have signed said affidavit appear upon said digest as taxpayers of said county for said year, the names which do appear on said digest being as follows, to wit: E. P. Galloway, H. L. Henson, J. H. Campbell, W. A. Ledford, W. A. Calhoun, J. E. Wilson, O. G. Paden, J. H. Cook, W. McFarland, W. H. Robinson, L. B. Hughes, Davis Merrell, W. G. Davis, S. M. Falls, F. M. Cagle, E. M. Flowers, W. F. Ellis, W. A. Kell, W. M .Allen, A. S. Jones, John Hayes, J. D. Patterson, Jas. Harren, J. O. E. Dilbeck, J. D. Jenkins and R. L. Turner. Affiant further says that G. G. Hyatt, who purports to have signed said affidavit as a notary public is the attorney at law for one if not both defendant companies.

D. A. JONES.

Sworn to and subscribed before me, this January 10, 1906.

THOS. A. BROWN,

Notary Public for Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

GEORGIA, Fulton County.

Personally appeared before me the undersigned officer au-

thorized to administer oaths, R. H. Robb, who after being duly sworn, deposes and sayeth:

I became fully aware of the conditions about Ducktown, Tennessee, as follows: As a presiding elder in the Methodist Episcopal church, I visited Epworth, Georgia, three miles from the smelter of Tennessee Copper Company, nearly every three months for six years, beginning with April, 1897. Because of advantages offered at Epworth our people erected Epworth Seminary there at a cost of five thousand ($5,000) dollars, and there has been since added several thousand more. The purpose of the church was to bring our people there for the purpose of educating their children. During the past few years the prospects of the institution have been greatly blighted because of the damage being done by the Ducktown smoke. The destruction by smoke of timber and vegetables has prevented us from attracting our people, as they can not be induced to locate where they can not have shade and raise vegetables. For three years (1902-1905) I was a citizen there and own property there. During those years I witnessed from year to year the increasing destruction caused to farm and garden products and the wholesale (in some places) destruction of timber caused by the Ducktown smoke. During the summer of 1905 I attended several mass meetings of the farmers and others at Epworth—representing the farmers for several miles—and heard them relate in detail the damage done by the smoke to farm and garden products, fruits and timber. Some crops were wholly destroyed and others partially. Heard also the trustees of our church and school property lament the irreparable damage done to our beautiful grove, the pride of the place.

Deponent further alleges that he has read the minutes of a mass meeting held at Harper's Store, Georgia, February 3, 1906, in the interests of the copper companies, and the names attached to the same, and recognizes among them the names of several farmers (including a member of the committee on resolutions of said meeting) from around Epworth, who attended the Epworth mass meeting last summer and who in common

with others related in detail the damage done to their farm and garden products and timber by the Ducktown smoke as is shown by the minutes of Epworth mass meeting.

R. H. ROBB.

Sworn to and subscribed before me, this March 17, 1906.

W. H. HARRISON,
Notary Public, Fulton County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

GEORGIA, Fannin County.

Personally appeared before the undersigned, a notary public in and for said county and State, William J. Witt, who, after being duly sworn, deposes and says on oath in relation to the above named and styled case, that he is a citizen and landowner of said county, and for a number of years was in the employ of the Tennessee Copper Company, one of the defendants in the above stated case, as one of its foremen, and that he has had fine opportunity to know the persons employed by said com-

pany, as well as the Ducktown Sulphur, Copper and Iron Company (Limited), the other defendant. Affiant further says that he has examined the affidavits filed by 125 persons, who claim to be residents of Fannin county, Georgia, and by 174 other persons claiming to be citizens and residents of Georgia, both made before G. G. Hyatt, notary public, Polk county, Tennessee, on the 11th day of November, 1905, as they appear on pages 114, 115, 116 and 117, and 125, 126, 127, 128 and 129 of the published "Argument, Brief and Exhibits of Defendant, Tennessee Copper Company, on Application of Plaintiff for Preliminary Restraining Order," filed by Howard Cornick and John H. Frantz, attorneys for Tennessee Copper Company, and Martin H. Vogel, of counsel, and that all of said 299 persons are in or have recently been in the employ of one or the other of said defendant companies, with the exception of a very few, and the exceptions are persons who are engaged in hauling for said companies or who own teams which are used in hauling for the said companies. Affiant further says that none of such persons are interested in farming, lumbering or stock raising in this State, the only interest such persons have is the maintenance of their daily wages as employees of these companies, except merely incidentally.

WILLIAM J. WITT.

Sworn to and subscribed to before me, this January 11, 1906.

THOS. A. BROWN,

Notary Public, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

GEORGIA, Fannin County.

In person appeared before the undersigned, an officer of said State duly authorized to administer oaths, John V. Willson, who, being duly sworn in relation to the above styled and numbered case, deposes and says that he is a citizen and landowner in said county and State, said land consisting of 220 acres, more or less, and located on Toccoa river, four miles air line north of the city of Blue Ridge, in said county, and about six miles south of the location of the Tennessee Copper Company's plants. Before said lands were affected by the smokes and copper fumes, which have been blowing over the same for about four years, affiant in his opinion could have sold said lands for $2,000, and now since the same has been injured as hereinafter stated, he has sold the same for $1,200, said sale on account of the injuries which were being done to said farm by said fumes and deadly gases, and affiant says that he would not have taken less than $2,000 for said farm before it had been injuriously affected by said smoke.

Before said fumes made their appearance in affiants com-

munity there was sufficient timber alive and growing to support and keep up the said farm, but since said farm has been affected by said smoke and fumes most of the best timber has been killed. Since said smoke has been observed on said farm the fodder takes something like a dry rot and same does not mature, and the greater part thereof is destroyed and lost to deponent. The orchards have also been affected and rendered practically worthless. The effect of said smoke and gases have been such that said lands in productive capacity has been reduced one-fourth. The injury being done the timber, vegetation and lands is progressive, in that more injury was done by the smoke and gases last year than during any other year.

JOHN V. WILLSON.

Sworn to and subscribed to before me, this January 15, 1906.

THOS. A. BROWN,
Notary Public, Fannin County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

GEORGIA, Cherokee County.

Personally appeared before me, the undersigned, J. C. Mc-

Daniel, who first being duly sworn in the above styled and numbered case, deposes and says:

That he was for four years justice of the peace of the 1129th Georgia Militia district, and that he was located at Tate, Georgia, during this time. That he is well acquainted with the country in and around Cherokee and the counties surrounding, in which neighborhood he has lived years. That he is well acquainted with all the factories and manufacturing plants located in this section of country. This deponent further says that he has often smelled the sulphur-laden fumes throughout this territory from the copper plants located across the Georgia line in Tennessee near Ducktown. That this was particularly noticeable at Tate, Georgia, on numerous occasions, and always when the air was heavy, and usually at night, and never except when the winds were from the direction of the Ducktown furnaces. That he has often heard his neighbors speak of these fumes and complain of them. One time I particularly recall at Tate, Georgia, was one evening about seven o'clock, when Mr. Sam Tate, the president of the Georgia Marble Company and myself were together, and walked from the station at Tate to my home. On this evening these fumes were very noticeable, and I called Mr. Tate's attention to them, and he also observed them and remarked on their presence in the atmosphere. I have heard numbers of people who have lived at Ducktown, and were thoroughly familiar with these fumes in the air, identify them at Tate, and call my attention to them. There is no possible chance for me to have gotten these fumes confused with any other fumes in this mountain country, as there are none produced anywhere in this section that are anything like the Ducktown fumes. These fumes are very noticeable from their unpleasant and peculiar odor, and when once one smells them they will never forget them when brought into contact with them again.

J. C. McDaniel.

Sworn to and subscribed before me, this day, 3d of April, 1906.

M. C. Roberts, C. N. P.,
Notary Public, Cherokee County, Georgia.

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No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,
County of Gilmer.

Personally appeared the hereinafter subscribed parties, who being duly sworn in the above styled and numbered cause, deposes and says:

Each deponent is a resident, citizen of said State and county, that during the past two or three years great quantities of timber have been killed within the locality within which the deponent resides and wherein he is acquainted. To the best of deponents' belief and knowledge this destruction of timber is occasioned by the sulphur fumes from the smelters and works of the copper companies operating in Polk county, Tennessee, not far from the Georgia line. The deponents have often noticed these fumes whenever the wind seemed to be in the right direction. Said fumes were distinguishable not only by their unpleasant odor, but often were visible to the naked eye, having the appearance of a haze or vapor. The death of the timber has only occurred in such great quantities since the fumes from the copper works made their appearance in the locality wherein

deponents reside. Since this heavy destruction of timber and vegetation, and within the past two years especially there has been a veritable epidemic of typhoid fever, there being many times the number of cases all throughout deponents' territory as in former years.

W. W. Holt,	W. P. Tucker,
W. M. Rogers,	R. F. Key,
A. R. Weaver,	J. B. Pless,
J. R. Scott,	J. A. Allen,
B. C. Whitener,	Lon Linsey,
W. V. Russell,	J. I. Smith.

Sworn to and subscribed before me, this 12th day of January, 1906.

D. A. JONES,
Notary Public, Gilmer County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

J. B. THOMPSON { 27 District, 2d sec., Farmer, 30 years.
GEORGIA, Murray County.

Personally appeared the undersigned, who, being duly sworn in the above stated case, says as follows:

That he lives in the above stated county and in the section and district set opposite his name. He has resided in said county for the number of years which is likewise set opposite his name.

Deponent has had a general knowledge of the public roads and highways which have been established for and are used by the public in his respective districts.

Within the past two or three years deponent has frequently observed the vapor sulphur fumes emitting from the furnaces of the defendants. These fumes are of a somewhat whitish or greyish color, sometimes resembling a sort of haze or mist. These fumes or mist have an exceedingly unpleasant odor which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in a direction from the premises of defendants these fumes appear to have considerable cohesive qualities and float in the air great distances. They frequently settle towards the earth, coming in contact with the trees and smaller vegetation.

Prior to the time mentioned the timber in the district of said county in which deponent resides was healthy and in good condition. It contained only an ordinary natural per cent. of dead timber, such as trees which died from natural old age, or trees which had been girdled or burnt or struck by lightning. Since these fumes have been emitted a marked difference has occurred in the character of said timber. The per cent. of dead timber has enormously increased. Certain classes of timber have been either entirely or almost wholly exterminated, such as the hickory and chestnut oak, and other timber such as the white pine is also dying in great quantities.

There has been no unnatural change in the physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has been neither unnaturally hot nor unnaturally cold. There has been no unusual drought or excessive rainfall during the time indicated.

The death of the timber mentioned has materially affected

the public highways mentioned. Trees growing on or near the boundaries of said highways which were in outwardly good condition two or three years ago have died. Many of such trees in the district mentioned and limbs from them are constantly falling on and across the highways, making the passage upon such highways more difficult, slower and more dangerous, particularly during high winds. It is more expensive to maintain said highways now than formerly for such trees and large limbs when they fall upon the highway and obstruct the same must be cut up and removed. This per cent. of increased cost in maintaining the highways has been considerable. It is continuous in character and will be for several years longer if the timber continues to be affected in the future as it is now and has been within the past two or three years.

J. B. THOMPSON.

Subscribed and sworn to before me, this 8th of March, 1906.

J. C. CHABLE,

Notary Public, Murray County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

D. J. ISENHOUR } 26 District, 2 sec. Murray, county, Ga.

GEORGIA, Murray County.

Personally appeared the undersigned, who, being duly sworn in the above stated case, says as follows:

That he lives in the above stated county and in the section and district set opposite his name. He has resided in said county for the number of years which is likewise set opposite his name.

Deponent has had a general knowledge of the public roads and highways which have been established for and are used by the public in his respective districts.

Within the past two or three years deponent has frequently observed the vapor sulphur fumes emitting from the furnaces of the defendants. These fumes are of a somewhat whitish or greyish color, sometimes resembling a sort of haze or mist. These fumes or mist have an exceedingly unpleasant odor which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in a direction from the premises of defendants these fumes appear to have considerable cohesive qualities and float in the air great distances. They frequently settle towards the earth, coming in contact with the trees and smaller vegetation.

Prior to the time mentioned the timber in the district of said county in which deponent resides was healthy and in good condition. It contained only an ordinary natural per cent. of dead timber, such as trees which died from natural old age, or trees which had been girdled or burnt or struck by lightning. Since these fumes have been emitted a marked difference has occurred in the character of said timber. The per cent. of dead timber has enormously increased. Certain classes of timber have been either entirely or almost wholly exterminated, such as the hickory and chestnut oak, and other timber such as the white pine is also dying in great quantities.

There has been no unnatural change in the physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has been neither unnaturally hot nor unnaturally cold. There has been no unusual drought or excessive rainfall during the time indicated.

The death of the timber mentioned has materially affected the public highways mentioned. Trees growing on or near the boundaries of said highways which were in outwardly good condition two or three years ago have died. Many of such trees in the district mentioned and limbs from them are constantly falling on and across the highways, making the passage upon such highways more difficult, slower and more dangerous, particularly during high winds. It is more expensive to maintain said highways now than formerly for such trees and large limbs when they fall upon the highway and obstruct the same must be cut up and removed. This per cent. of increased cost in maintaining the highways has been considerable. It is continuous in character and will be for several years longer if the timber continues to be affected in the future as it is now and has been within the past two or three years.

D. J. ISENHOUR.

Subscribed and sworn to before me, this 3d March, 1906.

E. L. BATES, J. P.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

R. L. HILL } 27 Dis., 2 sec., Woodsman, 5 years.

GEORGIA, Murray County.

Personally appeared the undersigned, who, being duly sworn in the above stated case, says as follows:

That he lives in the above stated county and in the section and district set opposite his name. He has resided in said county for the number of years which is likewise set opposite his name.

Deponent has had a general knowledge of the public roads and highways which have been established for and are used by the public in his respective districts.

Within the past two or three years deponent has frequently observed the vapor sulphur fumes emitting from the furnaces of the defendants. These fumes are of a somewhat whitish or greyish color, sometimes resembling a sort of haze or mist. These fumes or mist have an exceedingly unpleasant odor which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in a direction from the premises of defendants these fumes appear to have considerable cohesive qualities and float in the air great distances. They frequently settle towards the earth, coming in contact with the trees and smaller vegetation.

Prior to the time mentioned the timber in the district of said county in which deponent resides was healthy and in good condition. It contained only an ordinary natural per cent. of dead timber, such as trees which died from natural old age, or trees which had been girdled or burnt or struck by lightning. Since these fumes have been emitted a marked difference has occurred in the character of said timber. The per cent. of dead timber has enormously increased. Certain classes of timber have been either entirely or almost wholly exterminated, such as the hickory and chestnut oak, and other timber such as the white pine is also dying in great quantities.

There has been no unnatural change in the physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has been neither unnaturally hot nor unnaturally cold. There has been no unusual drought or excessive rainfall during the time indicated.

The death of the timber mentioned has materially affected the public highways mentioned. Trees growing on or near the boundaries of said highways which were in outwardly good condition two or three years ago have died. Many of such trees in the district mentioned and limbs from them are constantly falling on and across the highways, making the passage upon such highways more difficult, slower and more dangerous, particularly during high winds. It is more expensive to maintain said highways now than formerly for such trees and large limbs when they fall upon the highway and obstruct the same must be cut up and removed. This per cent. of increased cost in maintaining the highways has been considerable. It is continuous in character and will be for several

years longer if the timber continues to be affected in the future as it is now and has been within the past two or three years.

R. L. HILL.

Subscribed and sworn to before me, this March 8, 1906.

J. C. CHABLE,
Notary Public, Murray County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

J. P. GREGORY } 26 District, 2 sec., Murray county, Ga., 43 years.

GEORGIA, Murray County.

Personally appeared the undersigned, who, being duly sworn in the above stated case, says as follows:

That he lives in the above stated county and in the section and district set opposite his name. He has resided in said county for the number of years which is likewise set opposite his name.

Deponent has had a general knowledge of the public roads

and highways which have been established for and are used by the public in his respective districts.

Within the past two or three years deponent has frequently observed the vapor sulphur fumes emitting from the furnaces of the defendants. These fumes are of a somewhat whitish or greyish color, sometimes resembling a sort of haze or mist. These fumes or mist have an exceedingly unpleasant odor which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in a direction from the premises of defendants these fumes appear to have considerable cohesive qualities and float in the air great distances. They frequently settle towards the earth, coming in contact with the trees and smaller vegetation.

Prior to the time mentioned the timber in the district of said county in which deponent resides was healthy and in good condition. It contained only an ordinary natural per cent. of dead timber, such as trees which died from natural old age, or trees which had been girdled or burnt or struck by lightning. Since these fumes have been emitted a marked difference has occurred in the character of said timber. The per cent. of dead timber has enormously increased. Certain classes of timber have been either entirely or almost wholly exterminated, such as the hickory and chestnut oak, and other timber such as the white pine is also dying in great quantities.

There has been no unnatural change in the physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has been neither unnaturally hot nor unnaturally cold. There has been no unusual drought or excessive rainfall during the time indicated.

The death of the timber mentioned has materially affected the public highways mentioned. Trees growing on or near the boundaries of said highways which were in outwardly good condition two or three years ago have died. Many of such trees in the district mentioned and limbs from them are constantly falling on and across the highways, making the passage upon such highways more difficult, slower and more dan-

gerous, particularly during high winds. It is more expensive to maintain said highways now than formerly for such trees and large limbs when they fall upon the highway and obstruct the same must be cut up and removed. This per cent. of increased cost in maintaining the highways has been considerable. It is continuous in character and will be for several years longer if the timber continues to be affected in the future as it is now and has been within the past two or three years.

J. P. GREGORY.

Subscribed and sworn to before me, this March 3, 1906.

E. A. EARNEST,

N. P. and J. P. 1013th District, G. M., Murray County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

A. H. GREEN { 27 District, 2d sec., Farmer and J. P.

GEORGIA, Murray County.

Personally appeared the undersigned, who, being duly sworn in the above stated case, says as follows:

That he lives in the above stated county and in the section and district set opposite his name. He has resided in said county for the number of years which is likewise set opposite his name.

Deponent has had a general knowledge of the public roads and highways which have been established for and are used by the public in his respective districts.

Within the past two or three years deponent has frequently observed the vapor sulphur fumes emitting from the furnaces of the defendants. These fumes are of a somewhat whitish or greyish color, sometimes resembling a sort of haze or mist. These fumes or mist have an exceedingly unpleasant odor which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in a direction from the premises of defendants these fumes appear to have considerable cohesive qualities and float in the air great distances. They frequently settle towards the earth, coming in contact with the trees and smaller vegetation.

Prior to the time mentioned the timber in the district of said county in which deponent resides was healthy and in good condition. It contained only an ordinary natural per cent. of dead timber, such as trees which died from natural old age, or trees which had been girdled or burnt or struck by lightning. Since these fumes have been emitted a marked difference has occurred in the character of said timber. The per cent. of dead timber has enormously increased. Certain classes of timber have been either entirely or almost wholly exterminated, such as the hickory and chestnut oak, and other timber such as the white pine is also dying in great quantities.

There has been no unnatural change in the physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has been neither unnaturally hot nor unnaturally cold. There has been no unusual drought or excessive rainfall during the time indicated.

The death of the timber mentioned has materially affected the public highways mentioned. Trees growing on or near

the boundaries of said highways which were in outwardly good condition two or three years ago have died. Many of such trees in the district mentioned and limbs from them are constantly falling on and across the highways, making the passage upon such highways more difficult, slower and more dangerous, particularly during high winds. It is more expensive to maintain said highways now than formerly for such trees and large limbs when they fall upon the highway and obstruct the same must be cut up and removed. This per cent. of increased cost in maintaining the highways has been considerable. It is continuous in character and will be for several years longer if the timber continues to be affected in the future as it is now and has been within the past two or three years.

A. H. GREEN.

Subscribed and sworn to before me, this March 8, 1906.

J. C. CHABLE,

Notary Public, Murray County, Georgia.

No. 13. ORIGINAL.

In the Supreme Court of the United States,

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

J. C. CHABLE } 27 Dis. 2d Sec., 7 years, Miller.

GEORGIA, Murray County.

Personally appeared the undersigned, who, being duly sworn in the above stated case says, as follows:

That he lives in the above stated county and in the section and district set opposite his name. He has resided in said county for the number of years which is likewise set opposite his name.

Deponent has had a general knowledge of the public roads and highways which have been established for and are used by the public in his respective districts.

Within the past two or three years deponent has frequently observed the vapor sulphur fumes emitting from the furnaces of the defendants. These fumes are of a somewhat whitish or grayish color; sometimes resembling a sort of haze or mist. These fumes or mist have an exceedingly unpleasant odor which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in a direction from the premises of defendants these fumes appear to have considerable cohesive qualities and float in the air great distances. They frequently settle towards the earth coming in contact with the trees and smaller vegetation.

Prior to the time mentioned the timber in the district of said county in which deponent resides was healthy and in good condition. It contained only an ordinary natural per cent. of dead timber, such as trees which died from natural old age, or trees which had been girdled, or burnt or struck by lightning. Since these fumes have been emitted a marked difference has occurred in the character of said timber. The per cent. of dead timber has enormously increased. Certain classes of timber have been either entirely or almost wholly exterminated, such as the hickory and chestnut-oak, and other timber, such as the white pine, is also dying in great quantities.

There has been no unnatural change in physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has been neither unnaturally hot nor unnaturally cold. There has been no unusual drouth or excessive rainfall during the time indicated.

The death of the timber mentioned has materially affected the public highways mentioned. Trees growing on or near the boundaries of said highways which were in outwardly good condition two or three years ago have died. Many of such trees in the district mentioned and limbs from them are constantly falling on and across the highways, making the passage upon such highways more difficult, slower and more dangerous, particularly during high winds. It is more expensive to maintain said highways now than formerly, for such trees and large limbs when they fall upon the highway and obstruct the same must be cut up and removed. This per cent. of increased cost in maintaining the highways has been considerable. It is continuous in character and will be for several years longer if the timber continues to be affected

in the future as it is now and has been within the past two or three years. J. C. CHABLE.

Subscribed and sworn to before me this March 8, 1906.

J. C. CHABLE,
Notary Public, Murray County, Ga.

No. 13. ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1905.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

P. G. POTEET, { 27 Dis., 2d Sec., 36 years Farmer.

STATE OF GEORGIA,
Murray County.

Personally appeared the undersigned, who, being duly sworn in the above stated case, says as follows:

That he lives in the above stated county and in the section and district set opposite his name. He has resided in said county for the number of years which is likewise set opposite his name.

Deponent has had a general knowledge of the public roads and highways which have been established for and are used by the public in his respective districts.

Within the past two or three years deponent has frequently observed the vapor sulphur fumes emitting from the furnaces of the defendants. These fumes are of a somewhat whitish or greyish color, sometimes resembling a sort of haze or mist. These fumes or mist have an exceedingly unpleasant odor which is marked both in extent and character.

On days when the atmosphere is heavy and the wind is blowing in a direction from the premises of defendants these fumes appear to have considerable cohesive qualities and float in the air great distances. They frequently settle towards the earth coming in contact with the trees and smaller vegetation.

Prior to the time mentioned the timber in the district of said county in which deponent resides was healthy and in good condition. It contained only an ordinary natural per cent. of dead timber, such as trees which died from natural old age, or trees which had been girdled or burnt or struck by lightning. Since these fumes have been emitted a marked difference has occurred in the character of said timber. The per cent. of dead timber has enormously increased. Certain classes of timber have been either entirely or almost wholly exterminated, such as the hickory and chestnut-oak, and other timber such as the white-pine is also dying in great quantities.

There has been no unnatural change in physical conditions; no marked or noticeable climatic occurrences have taken place. The weather has been neither unnaturally hot nor unnaturally cold. There has been no unusual drouth or excessive rainfall during the time indicated.

The death of the timber mentioned has materially affected the public highways mentioned. Trees growing on or near the boundaries of said highways which were in outwardly good condition two or three years ago have died. Many of such trees in the district mentioned and limbs from them are constantly falling on and across the highways, making the

passage upon said highways more difficult, slower and more dangerous, particularly during high winds. It is more expensive to maintain said highways now than formerly, for such trees and large limbs, when they fall upon the highway and obstruct the same, must be cut up and removed. This per cent. of increased cost in maintaining the highways has been considerable. It is continuous in character, and will be for several years longer if the timber continues to be affected in the future as it is now and has been within the past two or three years. P. G. POTEET.

Subscribed and sworn to before me, this March 8th, 1906.

J. C. CHABLE,
Notary Public, Murray County, Georgia.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fulton.

Personally appeared before the undersigned authority W. M. Edwards and D. A. Jones who, being duly sworn herein, depose and say:

Deponent Edwards is a resident of Fulton county, Georgia, and is a photographer by profession.

Deponent Jones is a resident of Gilmer county, Georgia, and is a forester by profession, and has been for the past twenty-five years.

Deponent Edwards, with said Jones, during the early part of September, took twenty-three pictures of localities in Gilmer and Fannin counties, Georgia, which pictures are filed herewith and marked as exhibits A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, and X. It was impossible to make the camera clearly show the damage to the timber and vegetation, and only a close inspection of the pictures disclose the shriveled leaves of the worst damaged timber, photographically telling the tale of part of the injury. The pictures are as follows:

View A is taken from a point about two miles to the southward of the plant of The Tennessee Copper Company, and looking northward into Tennessee, in which direction the smoke from the furnaces of the plant is traveling. The smoke, however, had previously settled into the valleys in the left foreground, partly obscuring the mountains. The location of the Ducktown Company's plant, about five miles distant, is disclosed by the smoke middle right of the picture.

Each of the small chimneys of the structure immediately adjoining the tall stack are used, as two are shown to be used in the illustration, as furnace vents, liberating the gases generated in the furnace when such furnace becomes too warm or the chimney draft too great. The smoke from the stack and the small chimneys usually quickly combine, as shown by subsequent pictures. The underbrush and vegetation shown in the picture had practically all been killed, the leaves being brown and seared.

View B shows the smoke of the stack and small chimneys or furnace vent combining, the smoke of the vents rising and of the stack falling, to do this making an apparently uniform body of vapor and gas. The smoke has not quite reached the earth. The camera for this picture pointed north by west, and shows the smoke which had been traveling northward into Tennessee turning toward Georgia. The grass in the foreground had sprung up during the spring and summer, but at

the date the picture was taken, and before any frost, was brown and withered.

View C was taken from about the same general locality, the camera being pointed to the north. The smoke shown in the picture is traveling southwestward towards Murray county, Georgia. It ascended about two hundred feet above the stack then turned at right angles and began to rapidly falltowards the ground. The fumes under this smoke are those liberated from the small chimneys or vents. This picture, as are, in fact, all the vie vs, taken from Georgia territory.

View D is taken from the same point as picture C, the wind having changed and turning the smoke further southward into Georgia. The smoke from the furnace vents has already fallen to the river bottoms below the plant, and from the tall stack is falling to the ground and widening out horizontally. There was practically no breeze at all at the time the picture was taken.

View E was taken from the same vicinity, the camera being pointed to the northeast. This view shows the desolate and barren hills and mountain sides with the top soil washed away. The two bushes in the foreground are dogwood which, more than any other shrub, seem able to resist the sulphur fumes. They are, however, badly injured. The shrubbery along one river bank seems in some manner to have been protected by the river current, and is but little injured. The smoke obscuring the mountain ranges in the background is the combined fumes from both furnaces. The fumes rising and shown at the upper right hand corner of the picture are from the Ducktown company's plant.

View F is taken from the same vicinity as E, and to the northwest from said point. This view shows hills, valleys and mountains with the top soil washed away and a territory practically wholly denuded of vegetation. The smoke has to[illegible] obscured the mountains in the extreme background, and forms a haze covering the nearer hills.

View G is taken from the same vicinity as the preceding views and on the same day, but after the wind had changed its direction and the smoke had drifted into Georgia. The territory embraced in this view is in Georgia, the plant of the Tennessee Copper Company being behind the photographer at an angle of about sixty degrees.

View H is taken from the same point as G, the camera pointing about due south into Georgia, the copper plant being di-

rectly behind the photographer. The smoke is so dense that but a comparatively short distance can be shown in the picture even in hazy and indistinct outlines.

View I is a picture taken about three-quarters of a mile from the plants looking up the Ocowee river, and shows the smoke settled in the river valley.

View J is taken in Georgia several miles south of the copper plants. Of the timber shown in the picture about 90 per cent. is dead, and the remainder in a dying condition.

View K is taken about a mile further up the Toccoa river, and away from the copper plants than J, and shows the uniform destruction of all timber. The leaves shown on the bushes in the foreground are about all killed.

View L is taken about two miles to the southwest of K, and shows timber which had then lost about four-fifths of its leaves, although it is of the hardwood variety, which does not begin to shed its leaves until about the middle of October.

View M is taken near Fightington creek, about two miles southeast of Chestnut Gap, and fifteen miles to the southward of the copper plants. The smoke is coming down the valley, and is so dense the mountains beyond the valley can hardly be distinguished.

View N is taken from a point about two miles to the southeast of the section embraced in view M, and is in the vicinity of the Toccoa river. The timber here shown seems to have been completely protected up to the present summer. At the time the picture was taken the foliage had been killed but a few days, but practically all is dead. While the difference in appearance between dead and living leaves is hard to distinguish in a picture, this view shows the foliage shriveled and blistered as though by a severe fire.

View O is taken in the neighborhood of Sugar creek, about eleven miles from Ducktown. The entire foliage shown in the picture has been killed and is brown, shriveled and falling from the trees.

View P is taken from the top of Rock mountain, about nineteen miles airline from the plants of the copper companies. The camera is pointed directly toward the furnaces. The smoke has come down in such dense volume that it obscures the picture. The great destruction of timber in the lowlands shows even through the haze.

View Q is taken near Charlie creek, about a mile and a half distant from the preceding picture.

View R is taken from a mountain about twenty-two miles from Ducktown, looking away from the plants and toward the town of Ellijay. What appears to be a lake is the smoke which has settled down in very dense volume.

View S is taken between Cherry Log and Blue Ridge, Georgia, about seven miles south of Blue Ridge. All the white pines shown in the picture have been killed and the foliage of the remaining timber looks burned and dead.

View T is taken on Rock Creek, about two miles from the town of Cherry Log, Georgia, about twenty-three miles from Ducktown. The dead timber along the upper mountain side is shown in the picture and the injured leaves on the nearer timber is disclosed by their shriveled appearance.

View U is taken about two miles east of the preceding picture. The smoke has so obscured the mountains in the background that the dead timber is not plainly shown.

View V was made near Cherry Log, on the L. & N. Railroad. All white pine shown in the picture has been killed and most of it during the present summer. The hardwoods have brown and withered leaves.

View W shows a hillside several miles south of view V, and near the town of Whitepath, Ga. Practically all timber is dead or dying. The whitish, curled leaves in the foreground show the very recent death of the foliage.

View X is taken between the towns of Ellijay and Whitepath, about twenty-five miles from the plants of the copper companies. The white pine was so recently killed that it had not fully shed its foliage. The remaining leaves are brown and shriveled.

Deponents have also filed herewith a map of the Geological Survey of the United States, marked Exhibit Y, specifically indicating where said pictures were taken.

D. A. JONES.
W. M. EDWARDS.

Sworn to and subscribed before me, this 26th day of September, 1906.

HARVEY HILL,
Notary Public, Fulton county, Georgia.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above entitled cause, deposes and says:

Deponent is a photographer by profession, and has been a resident of Gilmer and Union counties, Georgia, for the past thirteen years.

Deponent makes a specialty of out-of-door photography in the forests of Gilmer, Fannin and Union counties, Georgia, Polk county Tennessee, and Cherokee county, North Carolina.

In pursuance of his vocation as above, has been in, over and through these various counties actively for the past five years, and in consequence is well acquainted with the timber, the orchards and farms of said territory.

Deponent has from time to time worked at the copper mines and smelters in Polk county, Tennessee, since these mines were actively at work, and is in consequence well acquainted with the fumes generated there, and knows their effects on timber, so that he is able to identify smoke damage when he sees it.

On August the 13th last, this deponent took the picture marked II of white pine and oak timber showing very serious smoke damage. This picture was taken about one mile north

of Whitepath, on the Blue Ridge and Ellijay road. Ten daye prior to this, on August 3d, this deponent traveled this sams road, and at this time the timber showing in this picture was not injured, so that the injury shown occurred in the time intervening between August 3, and August 13th. In this picture all the vegetation showing is badly damaged, the leaves badly browned. In the case of the oaks, the camera seems to make little distinction between green and brown leaves.

This deponent also took picture marked 12 on August 21st. This was taken on lot of land No. 186, in the seventh district, second section, Gilmer county, some fifteen miles from the defendants' smelters, and was of recent smoke injury.

Deponent also took picture marked 13. This was taken some seven miles northeast of Ellijay, and is a view of fresh virgin forest some twenty-two miles in airline from the smelters, and which forest was protected by a large mountain range intervening between the same and the defendants' furnaces. Also 14 was taken near the same place and at the same time; also 15 was taken some two miles further east. The last three pictures of vigorous uninjured forest were taken the second week in September, 1906.

W. C. GREEN.

Sworn to and subscribed before me, this 26th day of Septembef, 1906.

W. T. PICKETT,
Notary Public, Gilmer county, Georgia.

No. 5 ORIGINAL.

In the Supreme Court of the United States.

OCTOBER TERM, 1906.

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of McCays, Polk county, Tennessee. That during the second week in June, 1906, he, in company with one Mosencal, a forestry student and photographer, together with a third party, traversed various roads throughout the counties of Fannin and Gilmer, in the State of Georgia, taking pictures here and there of vegetation, trees and forests of said counties. At that time there was no perceptible damage to vegetation.

Deponent since that time, to wit, during the second week in September, 1906, has been over the same roads in Fannin and Gilmer counties traversed as aforesaid. That on this last trip deponent was accompanied by Mr. Western C. Allen. On this last trip deponent noticed considerable injury to vegetation, which has evidently occurred since the trip he made in June above mentioned. Deponent noticed damage to the extent of one-fourth to two-thirds of the timber with the leaves badly browned, above proportions of damage to timber depending on the location. In many places where the timber had been ap

parently healthy in June, at least half of the trees and bushes had shed their leaves and the ground was covered with same. The whole forest and surrounding country had the appearance of having been visited by a severe frost.

his
W. N. X BARCLAY.
mark.

Sworn to and subscribed before me, this the 19th day of September, 1906.

W. T. PICKETT,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of Ellijay, Gilmer county, Georgia. That during the second week of September, 1906, this deponent, in company with Mr. W. N. Barclay, traversed various roads throughout Gilmer and Fannin counties, Georgia, with a view of thoroughly examining the timber and forestry along

said roads. Deponent states that they found the timber and foliage badly damaged throughout all of this territory; that the leaves were brown and seared, and much of the timber and bushes had been so badly damaged that they had shed their leaves. The whole forests and landscape having the appearance of having been visited by a very severe frost, and everything throughout the section appeared as though it were in late November, after the usual annual frosts had fallen in this country. This damage was not the same throughout the territory. It was much greater in some places than others, and varied from one-third to possibly two-thirds the timber affected. At no time during this trip were we out of sight of damage to the timber. This deponent can state of his own knowledge that no frost has fallen since early spring of this year, and this deponent attributes this whole damage to the fumes from defendants' furnaces. This deponent can further state of his own knowledge that this damage to the timber and foliage was recent, and had occurred since the trees put out in full leaf this spring, as plainly indicated by the leaves that had put out then being dead and withered on the trees or on the ground.

W. C. ALLEN.

Sworn to and subscribed before me, this the 19th day of September 1906.

W. T. PICKETT,
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In the Supreme Court of the United States

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He has been a resident of said county and State for the number of years opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist of vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

Particularly has this been the case during the spring and summer of this year, while heretofore, viz.: prior to May, 1906, these fumes were rarely ever noticed in deponent's neighborhood except late at night or early in the morning, but since this time these fumes have been present at times all hours of the day or night whenever the wind was from the direction of defendants' mines. Their appearance, too, has been marked more frequently and the fumes have been present in far greater strength and density than ever observed before. While before the spring and summer above mentioned, the destruction to timber and vegetation seemed to be accomplished gradually, since May of this year the destruction wrought has been much more signal than ever before known. Whenever said fumes deponent's neighborhoods immediately thereafter, viz., in the next three or four days the timber and vegetation that had been enveloped in said fumes and exposed thereto would immediately show the evil effects of the same. The leaves on the timber would turn brown, shrivel up and fall from the trees. The corn leaves would be burnt and shrivel. The leaves on the peas and beans would likewise be wilted, and even the ragweeds and other hardy plants would wilt and perish as if the whole section had been visited by a severe frost.

Since the above spring and summer the fumes seem to have been given an increased carrying power, and seemed to have been condensed and concentrated and made far more deadly.

They seem to have mounted higher altitude and been able to pass barriers of mountains and hills that hithertofore seemed to protect certain sections where no damage had heretofore appeared. Since the above time referred to these barriers have been passed and new sections have been blighted and devastated that have never before been visited. Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year have been raised throughout said section. The winter-growing crops consisting largely of wheat, rye, and small grain generally, and market or garden truck, of turnips, collards, mustards and greens and like winter-growing vegetables. The farms prior to the appearance of the fumes above mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia where deponent resides are exceedingly large and valuable. Among the species of trees found are white pine, yellow pine, hemlock, white and chestnut oak, and other varieties. The white pine, yellow pine, hemlock, and other conifers, or trees of the evergreen varieties being in leaf throughout the winter. Some species of timber in the forest, such as hickory and chestnut oak have been almost exterminated, and fruit trees throughout considerable areas are badly damaged. The destruction to timber, crops and orchards has been far greater during the spring and summer of 1906, and the territory showing destruction vastly widened and increased over anything ever before known. Each deponent knows of his own knowledge that since May of this year that the destruction to timber and vegetation has been multiplied many times over anything ever before experienced, and said destruction has been wrought and accomplished in much less time. Should the destruction of timber, orchards and crops continue in the future as it has since May of this year, the complete and utter destruction of all timber and orchards is near at hand, as the destruction is already widespread.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. I. Davis	Farmer	48	Cartecay.
W. J. West	"	45	"
B. P. Adams	"	49	"
C. L. Goss	"	25	"
J. B. West	"	37	"
G. A. McClure	"	25	"
John Southern	"	33	Alto.
J. B. Williams	"	28	Cartecay.
J. F. Forester	"	18	"
J. E. Southern	"	30	Alto.
F. D. Reece	"	19	"
J. L. Osborn	"	35	Cartecay.
R. A. McClure	"	33	Alto.
W. L. Greeneway	"	28	Cartecay.
J. M. Reece	"	29	"
W. A. Holloway	"	31	"
J. P. Bearden	"	39	Alto.
C. C. Holt	"	53	Pickanetley.
J. H. Adams	"	57	Cartecay.
M. P. Forrester	"	22	"
W. A. Reece	"	27	"
H. J. Reece	"	34	"
J. C. West	"	30	"
J. B. Chastain	"	23	"
W. G. West	"	20	"
L. P. Bearden	"	23	Alto.
Grover West	"	21	Cartecay.
J. L. Kincaid	"	24	"
G. W. Reece	"	25	"
Chas. Kincaid	"	19	Alto.
D. P. Swainey	"	48	Cartecay.
G. L. Comer	"	50	"
J. I. Teem	Merchant	51	"
A. A. Sutton	Farmer	25	Ball Ground.
J. C. Holt	"	33	Alto.
D. M. Lyons	"	46	Cartecay.
J. B. Smith	"	46	"
W. A. Lowring	"	20	"
C. W. Kenimore	"	60	"
J. J. Bates	"	45	"
W. F. Mulinax	"	27	"
L. P. Mulkey	"	24	"
J. W. Reese	"	20	"
Judson Forester	"	25	Ellijay.
W. F. McHan	"	35	Cartecay.
J. W. Bailey	"	36	Ellijay.
A. R. Cantrell	"	35	Cartecay.
H. G. Cantrell	"	35	"
L. M. McClure	"	26	Alto.
J. W. Greenway	"	6	Cartecay.
J. W. Smith	"	24	"
M. K. Adams	"	45	"
L. C. Mulkey	"	17	"
H. L. Bourden	"	22	Alto.
W. E. Chastain	"	21	"

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
H. E. Anderson	Farmer	16	Alto.
W. C. Evans	"	34	Cartecay.
J. M. Chastain	"	22	Alto.
C. A. Joiner	"	26	"
L. M. Davis	"	22	Cartecay.
J. C. Walker	"	45	"
R. K. Adams	"	40	"
G. M. Holt	"	17	"
R. H. Evans	"	20	"
Rosco West	"	19	"
P. J. Mullinax	"	15	"
Asbury Mulinax	"	16	"

Sworn to and subscribed before me, this 15th day of September, 1906.

J. W. C. WEST, N. P.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

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He has been a resident of said county and State for the number of years opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character

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Since the above spring and summer the fumes seem to have

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The timber interests in the section of Georgia where deponen- resides are exceedingly large and valuable. Among the species of trees found are white pine, yellow pine, hemlock, white and chestnut oak, and other varieties. The white pine, yellow pine, hemlock and other conifers, or trees of the evergreen varieties being in leaf throughout the winter. Some species of timber in the forest, such as hickory and chestnut oak have been almost exterminated, and fruit trees throughout considerable areas are badly damaged. The destruction to timber, crops and orchards has been far greater during the spring and summer of 1906, and the territory showing destruction vastly widened and increased over anything ever before known. Each deponent knows of his own knowledge that since May of this year that the destruction to timber and vegetation has been multiplied many times over anything ever before experienced, and said destruction has been wrought and accomplished in much less time. Should the destruction of timber, orchards and crops continue in the future as it has since May of this year, the complete and utter destruction of all timber and orchards is near at hand, as the destruction is already widespread.

NAME.	NUMBER YEARS IN COUNTY.	OCCUPATION.	DISTRICT AND SECTION.
B. L. Hensley	17	Tax Receiver	Town Creek.
A. C. Inge	36	L. C.	850 District.
James his × mark Traglin	10	Farm'r & lumberm'n	850 "
Richard L. Dotson	30	" "	850 "
M. J. Teem	11	Farmer	1174 "
M. B. West	40	"	850 "
C. C. Russell	30	"	1135 "
L. H. Davenport	40	"	850 "
A. J. Harper	34	"	850 "
Wm. Ray	58	"	1135 "
C. H. Webb	45	"	850 "
J. H. Tuck	30	"	1136 "
R. L. Milton	35	R. R. Employee	850 "
Barnett Holt	35	Farmer	850 "
J. C. Searcy	35	Lumberman	850 "
G. W. Blaylock	50	Farmer	1174 "
O. D. Price	2	Mechanic	850 "
S. F. Pettit	43	Farmer	932 "
J. Shepard	35	Railroad fireman	850 "
W. A. Kell	18	Farmer	850 "
T. T. Parker	40	"	950 "
R. P. Parks	46	"	958 "
M. V. Kell	29	Lumber	850 "
A. J. Pinson	52	Sheriff Gilmer Co.	850 "

Sworn to and subscribed before me, this 8th day of September, 1906.

W. H. GUDGER,
Clerk Superior Court, Gilmer county, Ga.

In the Supreme Court of the United States

October Term, 1906

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Plaintiff,

vs.

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Defendants.

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NAME.	TIME	OCCUPATION	DISTRICT
W. C. Cloninger	37	Farmer	Ellijay
B. F. Ellington	60	"	"
W. M. Chastain	30	"	Carteeay
W. M. Mashburn	39	"	Ellijay
J. W. Dunn	35	"	"
John Strickland	30	"	"
Bascom Derden		"	"
M E. Strickland		"	"
F. J. Ellington		"	"
T. C. Ellington		"	"
F. G. Ellington		"	"
Wm. Ellington	60	"	"

Sworn to and subscribed before me, this 15th day of September, 1906.

WM. ELLINGTON,
N. P. and ex-officio J. P.

In the Supreme Court of the United States

October Term, 1906

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NAME.	NO. YEARS IN COUNTY.	OCCUPATION.	DISTRICT.
C. W. Nealey	25	Farmer	Cartecay.
J. C. Nealey	15	"	"
Rolen Nealey	20	"	"
Jess Nealey	10	"	"
L. P. Puce	30	"	"
C. L. Bates	25	"	"
J. M Prince	50	"	"
J. H. M. West	50	"	"
Milton Holt	2	"	"
J. M. Ralston	3	"	"

Sworn to and subscribed before me, this 15th September, 1906.

J. W. C. WEST, N. P.

In the Supreme Court of the United States

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Particularly has this been the case during the spring and summer of this year, while heretofore, viz.: prior to May, 1906, these fumes were rarely ever noticed in deponent's neighborhood except late at night or early in the morning, but since this time these fumes have been present at times all hours of the day or night whenever the wind was from the direction of defendants' mines. Their appearance, too, has been marked more frequently and the fumes have been present in far greater strength and density than ever observed before. While before the spring and summer above mentioned, the destruction to timber and vegetation seemed to be accomplished gradually, since May of this year the destruction wrought has been much more signal than ever before known. Whenever said fumes have been noticed in unusual strength and volume in each of deponent's neighborhoods immediately thereafter, viz., in the next three or four days the timber and vegetation that had been enveloped in said fumes and exposed thereto would immediately show the evil effects of the same. The leaves on the timber would turn brown, shrivel up and fall from the trees. The corn leaves would be burnt and shrivel. The leaves on the peas and beans would likewise be wilted, and even the ragweeds and other hardy plants would wilt and perish as if the whole section had been visited by a severe frost.

Since the above spring and summer the fumes seem to have

been given an increased carrying power, and seemed to have been condensed and concentrated and made far more deadly. They seem to have mounted higher altitude and been able to pass barriers of mountains and hills that hithertofore seemed to protect certain sections where no damage had heretofore appeared. Since the above time referred to these barriers have been passed and new sections have been blighted and devastated that have never before been visited. Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year have been raised throughout said section. The winter-growing crops consisting largely of wheat, rye, and small grain generally, and market or garden truck, of turnips, collards, mustards and greens and like winter-growing vegetables. The farms prior to the appearance of the fumes above mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia where deponent resides are exceedingly large and valuable. Among the species of trees found are white pine, yellow pine, hemlock, white and chestnut oak, and other varieties. The white pine, yellow pine, hemlock, and other conifers, or trees of the evergreen varieties being in leaf throughout the winter. Some species of timber in the forest, such as hickory and chestnut oak have been almost exterminated, and fruit trees throughout considerable areas are badly damaged. The destruction to timber, crops and orchards has been far greater during the spring and summer of 1906, and the territory showing destruction vastly widened and increased over anything ever before known. Each deponent knows of his own knowledge that since May of this year that the destruction to timber and vegetation has been multiplied many times over anything ever before experienced, and said destruction has been wrought and accomplished in much less time. Should the destruction of timber, orchards and crops continue in the future as it has since May of this year, the complete and utter destruction of all timber and orchards is near at hand, as the destruction is already widespread.

NAME.	TIME OF RESIDENCE. YEARS.	OCCUPATION.	DISTRICT.
Willis Wright		Farmer	7 dist. 2 sec.
W. G. Orton	30	"	" "
Quillin Week	28	"	" "
Joseph Allen	50	"	Skienah.
W. G. Stanley	35	"	7 dist. 1 sec.
W. G. Harris	60	"	Cartecay.
S. W. Parks	40	"	"
C. L. Reese	30	"	"
J. S. Burrell	38	Merchandise	"
J. M. Thompson	25	Farmer	Ellijay.
J. H. Jones	40	"	"
J. H. Johnson	35	"	"
Wilburn Weaver	20	"	"
L. M. Adams	25	"	"
G. W. Hanson	45	"	"
W. H. Martin	7	"	Board Town.
Loid Hanson	50	"	Ellijay.
O. N. Fain	49	"	Board Town.
J. W. C. West	40	Lumberman	Cartecay.
J. H. Griggs	50	Carpenter	Ellijay.
T. W. Craigo	50	Farmer	"
W. H. Gudger	35	Farmer & Clerk.	Seplant.
Wm. Simmons	32	Lumberman	Ellijay.
W. A. Walker	30	Farmer	"
B. A. Logan	50	"	"
E. M. Ray	56	"	"

Sworn to and subscribed before me, this 13th day of September, 1906.

WM. ELLINGTON,
Notary Public and ex officio Justice the Peace.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character

of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

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NAME.	LENGTH OF RESIDENCE YEARS.	OCCUPATION.	DISTRICT.
R. B. Evans	60	Farmer and Fruit	Carticay.
John Clontz	11	" "	Ellijay.
J. B. Weaver			
John F. Weaver			
L. M. Hagin	20	Farmer	Carticay.
J. C. Anderson	40	"	Tickanetley.
B. N. Johnson	40	Farmer	Carticay.
John L. Holt	50	"	"
G. W. Clayton	35	"	Bucktown.
E. H. Clayton	30	"	"
W. C. Walker	33	"	Tickanetley.
J. H. Holt	38	"	Ellijay.
Wm. Kinnins	50	"	Carticay.
A. L. Pinson	40	"	"
J. F. Brown	30	Blacksmith	"
J. S. Smith	40	Farmer	Diamond.
W. N. Cochran	25	Merchant	"
S. F. Stanley	10	Farmer	"
Henry Weaver	40	"	"
M. C. Holden	30	"	"
J. S. Plemons	50	"	Tickanetley.
D. K. Ralston	45	"	Carticay.
Elijah Storney	15	"	Tickanetley.
C. D. Cantrell	15	"	"
D. C. Cantrell	50	"	"
W. H. Cantrell	20	"	Carticay.
C. H. Simmons	25	Miller	"

Sworn to and subscribed before me, this 14th day of September, 1906.

WM. ELLINGTON,
Notary Public and ex officio Justice the Peace.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to th eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

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Particularly has this been the case during the spring and summer of this year, while heretofore, viz.: prior to May, 1906, these fumes were rarely ever noticed in deponent's neighborhood except late at night or early in the morning, but since this time these fumes have been present at times all hours of the day or night whenever the wind was from the direction of defendants' mines. Their appearance, too, has been marked more frequently and the fumes have been present in far greater strength and density than ever observed before. While before the spring and summer above mentioned, the destruction to timber and vegetation seemed to be accomplished gradually, since May of this year the destruction wrought has been much more signal than ever before known. Whenever said fumes have been noticed in unusual strength and volume in each of deponent's neighborhoods immediately thereafter, viz., in the next three or four days the timber and vegetation that had been enveloped in said fumes and exposed thereto would immediately show the evil effects of the same. The leaves on the timber would turn brown, shrivel up and fall from the trees. The corn leaves would be burnt and shrivel. The leaves on the peas and beans would likewise be wilted, and even the ragweeds and other hardy plants would wilt and perish as if the whole section had been visited by a severe frost.

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been given an increased carrying power, and seemed to have been condensed and concentrated and made far more deadly. They seem to have mounted higher altitude and been able to pass barriers of mountains and hills that hithertofore seemed to protect certain sections where no damage had heretofore appeared. Since the above time referred to these barriers have been passed and new sections have been blighted and devastated that have never before been visited. Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year have been raised throughout said section. The winter-growing crops consisting largely of wheat, rye, and small grain generally, and market or garden truck, of turnips, collards, mustards and greens and like winter-growing vegetables. The farms prior to the appearance of the fumes above mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

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NAME.	LENGTH OF RESIDENCE YEARS	OCCUPATION.	DISTRICT.
J. M. Hill	15	Farmer	Tickanetley.
A. J. Holden	30	"	Diamond.
R. P. Weaver	15	"	Tickanetley.
W. L. Davis	25	"	"
W. M. Cochran	63	"	Diamond.
G. M. Neely	20	"	"
W. H. Waddell	45	"	"
Lit Weaver	20	"	Tickanetley.
J. B. Kimmars	30	"	Cartecoy.
C. N. Johnson	20	"	"
J. F. Chadwick	10	"	"
R. G. Smith	12	"	"
Alfred Cantrell	30	"	"
W. F. Cantrell	23	"	"
W. F. Gibbs	30	"	"
J. O Akins	36	"	Tickanetley.
F. C. Cantrell	26	"	Cartecoy.

Sworn to and subscribed before me, this 21st day of September, 1906.

WM. ELLINGTON, N. P.,
Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

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been given an increased carrying power and seemed to have been condensed and concentrated and made far more deadly. They seem to have mounted higher altitude and been able to pass barriers of mountains and hills that hithertofore seemed to protect certain sections where no damage had heretofore appeared. Since the above time referred to these barriers have been passed and new sections have been blighted, and devastated that have never before been visited. Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year have been raised throughout said section. The winter-growing crops consisting largely of wheat, rye, and small grain generally, and market or garden truck, of turnips, collards, mustard and greens ,and like winter-growing vegetables. The farms prior to the appearance of the fumes above mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

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NAME.	LENGTH OF RESIDENCE. YEARS.	OCCUPATION.	DISTRICT AND SECTION.
I. W. Cain	34	Farmer	Town Creek.
G. W. Richards	25	"	Larches.
E. T. Ray	28	"	Town Creek.
D. M. Dover	40	"	Tails Creek.
W. C. Jenkins	21	"	" "
John M. Parks	61	"	Board Town.
M C. Bridges	16	Saw Mill	Ellijay.
J. W. Parker	60	Farmer	Tickannetley.
J. B. Taylor	25	"	Ellijay.
Henry Nelson	10	"	"
B. F. Evans	45	Merchant	Dyke.
G. R. Herron	20	Farmer	Tails Creek.
T. H. Bramlett	14	"	Cartecay.
Garrett M. Roberts	50	"	Tails Creek.
J. P. Ray	50	"	1136.
Johnnie W. Davis	34	"	850.
William Steeder	34	"	Mt. Town.
R. W. Latta	28	"	" "
Wess Harris	34	"	" "
J. A. Gudger	76	"	850.
Lee Sluder	63	"	Cherry Log.
Monroe Sluder	31	"	" "
Joe Derveese	23	"	Tails Creek.
Jim Buckner	33	"	850.
S. J. Withrow	30	"	Tails Creek.
N. L. Osborn	75	"	Mt. Town.

Sworn to and subscribed to before me, this September 21, 1906.

W. H. GUDGER,
Clerk Superior Court, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

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NAME.	NO. YEARS RESIDENCE IN DISTRICT	OCCUPATION.	DISTRICT.
R. A. Pinson	27	Merchandising	Ellijay
W. C. Allen	44	"	"
H. B. Pritchett	27	Saw Mill	"
Wm. his mark ×Legg	46	Farmer	Cherry Log
Fannie May her mark ×Prinson	42	"	Ellijay
W. L. P. Crimmons	33	Lumberman	Boardtown
A. B. Rackley	56	Farmer	Ellijay
J. D. Stewart	50	"	Cherry Log
W. T. Pritchett	39	"	Ellijay
T. D. Henson	41	Carpenter	Ellijay, Ga.
G. V. Akins	28	Farmer	Cherry Log
L. D. Rodgers	63	"	Ellijay
W. M. Rodgers	43	"	"
A. W. West	33	Bridge Engineer	"
F. Holden	39	Poles, Ties	"
J. H. Ray	15	Clerk	"
K. H. Patterson	7	Mill	"
C. H. Padgett	35	Mechanic	"
F. E. Shippen	10	Lumberman	"

Sworn to and subscribed before me, this 13th day of September, 1906.

D. A. JONES,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendants' furnaces. Each of deponents has by reason of his residence, and the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil, and the character thereof; the streams, the timber, the various species of trees which prevail in said forests; the general values of the land for agricultural and other purposes, and the general values of the trees for lumber and timber purposes.

Each of deponents says that the land when cleared of the trees, and particularly the land which is irrigated by streams, in his particular district is fertile, readily cultivated and pro-

duces in paying quantities corn, wheat and other crops. The soils is specially adapted for the raising of what is termed market truck.

Much of said county is devoted to agricultural purposes, and heretofore throughout said section to crops per year have been raised, the winter-growing crops consisting largely of wheat, rye, barley and small grain, and the garden or market truck of turnips, mustard, collards and the like. The farms have heretofore, and prior to the appearance of the hereinafter mentioned fumes, as a rule, been profitable to their owners, and have been cultivated from year to year, and were generally in good condition.

The timber interests in said section of the State are exceedingly large and valuable. The timber, either standing or cut, possesses a ready market. Many fine species of trees are to be found, such as the white pine, spruce, yellow pine, hemlock, hickory, white oak, chestnut, poplar, and a large number of other varieties, the white pine, spruce, yellow pine and other trees of the conifer or evergreen variety being in leaf throughout the entire winter.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eye and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents have ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which has ever, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle towards the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence during each month. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

In the winter the smoke and vapor has heretofore been even more constantly present than during the summer previous, and clings more closely to the earth. This is especially true upon rainy, cloudy and foggy days, and when the atmosphere is dense, but the presence of the fumes and vapor is by no means confined to this character of weather.

During the spring and summer of 1906, the smoke and fumes have been more continuously present than at any time before, have appeared and remained present not only more constantly, but in greater volume and strength. In addition, the vapor was present at hours not theretofore customary, and remained for much longer periods. Prior to said spring and summer of 1906 the fumes were usually noticeable only at night, late in the afternoon, or in the early morning, but during the past few months same have been present at times during practically all hours of the day and night.

Prior to said period of time the timber in the district in which deponents lives was healthy, sound, in good condition, and there was no appearance of any cause generally affecting injuriously either the timber as a whole, or operating upon any particular species. Trees would occasionally here and there die from old age and random fires, lightning, or other individual causes. These were, however, normal occurences, and the great body and bulk of the timber was in a normal, healthful, thriving condition.

Within the period of time mentioned, and since the fumes and vapors emitted by the defendants' furnaces have been noticed in the district in which each deponent resides, the general condition of the forests have changed—the timber is dying rapidly. It is no longer in a healthy condition. Much of it is dead. The percentage of dead trees to live trees has passed from a natural, normal per cent. to one which is entirely unnatural and abnormal. Some of the species have become practically extinct, such as the chestnut oak and hickory. It is a fact that in the district in which each deponent lives these two varieties of trees have been to a large extent exterminated. These trees wither, cast their leaves in the summer long prior

to the fall, and die almost immediately. At the present rate of mortality of these two species it is a question of but a short time until they are absolutely exterminated in deponents' respective districts. In some of the districts of said county these trees have already become extinct.

Many other varieties of trees are showing similar effects, and are dying in substantially the same way, though requiring a greater length of time. Among these may be found the white pine, hemlock, white oak, the post-oak, and other varieties. Enormous quantities of these varieties are now in process of dying, the leaves wither and fall prior to the natural order of things. The leaves upon the white pine turn yellow. The trees disclose to the eye at a glance that they are in process of death. Trees showing these outward signs in the late summer often do not put out the following spring. The trees thus affected will not put out at the top. This, the most exposed part of the tree, is more quickly and readily affected than the under part, which is to a greater or less extent, protected by the surrounding trees and undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other cause from which the results indicated could spring than that of the haze or mist above mentioned. There is no other haze, mist, vapor or fumes in said county from any other cause. There has been during said period of time no peculiar or unusual climatic changes. There has been nothing unusual in any other physical or natural condition of affairs. There has been neither unusual drouth nor excessive rainfall.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years in his respective district. He has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of natural life.

Deponents state that upon repeated occasions the haze or vapor mentioned above would settle upon the earth and come in physical contact with the crops that have been planted. In a single night after these fumes thus described would touch the vegetation it would be either entirely destroyed or seriously injured. It would wither and turn yellow summer-grown crops or vegetables as if a heavy frost had fallen upon them, though no frost had touched them, and utterly destroy the small grain and other winter-growing crops.

The same effect as that above described would be noticed upon the various orchards after one or more visitations, either the fruit being entirely destroyed or the product being small, dwarfed fruit entirely unfit for use.

Deponents state that in some of the districts of said county a number of farms have been abandoned because of the settling of these sulphur fumes from the defendants' furnaces upon the farm. Prior to the last few years none of these farms had, to deponents' knowledge, been afflicted in the way described. Said farms, prior to said times, had been cultivated in the usual, ordinary way, and produced the usual, ordinary results.

The destruction of timber, orchards, crops, gardens and vegetation generally throughout deponents' section has been much greater during the spring and summer of 1906 than during the same period of any previous years, and the territory in which said destruction was apparent has largely increased. Many farms throughout the locality in which this destruction is wrought have been abandoned as such, and deponents, from their knowledge of farming, state that no farm can be successful when subject to the conditions hereinbefore specified. The forests are likewise being ruined, and under said conditions will soon be wholly destroyed.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. P. Evans	U. P.	50	1091
B. P. Whitaker	Jury Commissioner.	50	1136
R. L. Smith	Merchant	60	932
H. S. Jones	Farmer	50	907
H. L West	"	40	864
J. B. Scott	"	30	907
L. B. Holt	"	60	1136
T. G. Simmons	Rep.	11	850
his Jno. M. × Bingess mark	Farmer	3	850
his D. J × Godsey mark	"	50	1135
G. W. Panky	"	35	1274
J. D. Blaylock	"	43	850
J. W. Wilson	"	35	850
his J. W. X Moore mark	"	37	11th and 2d
his H. M. × James mark	"	36	850
G. W. Watkin	"	75	907
W. C. Plemony	"	50	850
W. H. Allen	Merchant	27	850

Sworn to and subscribed before me, this 12th day of September, 1906.

T. H. TABOR,
Ordinary Gilmer county, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendants' furnaces. Each of deponents has by reason of his residence, and the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil and the character thereof; the streams, the timber, the various species of trees which prevail in said forests; the general values of the land for agricultural and other purposes, and the general values of the trees for lumber and timber purposes.

Each of deponents says that the land when cleared of the trees, and particularly the land which is irrigated by streams, in his particular district is fertile, readily cultivated and pro-

duce in paying quantities corn, wheat and other crops. The soil is especially adapted for the raisin gof what is termed market truck.

Much of said county is devoted to agricultural purposes, and heretofore throughout said section to crops per year have been raised, the winter-growing crops consisting largely of wheat, rye, barley and small grain, and the garden or market truck of turnips, mustard, collards and the like. The farms have heretofore, and prior to the appearance of the hereinafter mentioned fumes, as a rule, been profitable to their owners, and have been cultivated from year to year, and were generally in good condition.

The timber interests in said section of the State are exceedingly large and valuable. The timber, either standing or cut, possesses a ready market. Many fine species of trees are to be found, such as the white pine, spruce, yellow pine, hemlock, hickory, white oak, chestnut, poplar, and a large number of other varieties, the white pine, spruce, yellow pine and other trees of the conifer or evergreen variety being in leaf throughout the entire winter.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eye and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents have ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physicaily identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which has ever, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle towards the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during this summer. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

During the spring and summer of 1906, the smoke and fumes have been more continuously present than at any time before, have appeared and remained present not only more constantly, but in greater volume and strength. In addition, the vapor was present at hours not theretofore customary, and remained for much longer periods. Prior to said spring and summer of 1906 the fumes were usually noticeable only at night, late in the afternoon, or in the early morning, but during the past few months same have been present at times during practically all hours of the day and night.

Prior to said period of time the timber in the district in which deponents lives was healthy, sound, in good condition, and there was no appearance of any cause generally affecting injuriously either the timber as a whole, or operating upon any particular species. Trees would occasionally here and there die from old age and random fires, lightning, or other individual causes. These were, however, normal occurences, and the great body and bulk of the timber was in a normal, healthful, thriving condition.

Within the period of time mentioned, and since the fumes and vapors emitted by the defendants' furnaces have been noticed in the district in which each deponent resides, the general condition of the forests have changed—the timber is dying rapidly. It is no longer in a healthy condition. Much of it is dead. The percentage of dead trees to live trees has passed from a natural, normal per cent. to one which is entirely unnatural and abnormal. Some of the species have become practically extinct, such as the chestnut oak and hickory. It is a fact that in the district in which each deponent lives these two varieties of trees have been to a large extent exterminated. These trees wither, cast their leaves in the summer long prior to the fall, and die almost immediately. At the present rate of mortality of these two species it is a question of but a short time until they are absolutely exterminated in deponents' respective districts. In some of the districts of said county these trees have already become extinct.

Many other varieties of trees are showing similar effects, and are dying in substantially the same way, though requiring a

greater length of time. Among these may be found the white pine, hemlock, white oak, the post- oak, and other varieties. Enormous quantities of these varieties are now in process of dying, the leaves wither and fall prior to the natural order of things. The leaves upon the white pine turn yellow. The trees disclose to the eye at a glance that they are in process of death. Trees showing these outward signs in the late summer often do not put out the following spring. The trees thus affected will not put out at the top. This, the most exposed part of the tree, is more quickly and readily affected than the under part, which is to a greater or less extent, protected by the surrounding undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other cause from which the results indicated could spring than that of the haze or mist above mentioned. There is no other haze, mist, vapor or fumes in said county from any other cause. There has been during said period of time no peculiar or unusual climatic changes. There has been nothing unusual in any other physical or natural condition of affairs. There has been neither ususual drouth nor excessive rainfall.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years in his respective district. He has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of natural life.

Deponents state that upon repeated occasions the haze or vapor mentioned above would settle upon the earth and come in physical contact with the crops that have been planted. In a single night after these fumes thus described would touch the vegetation it would be either entirely destroyed or seriously injured. It would wither and turn yellow summer-grown crops or vegetables as if a heavy frost had fallen upon them, though no frost had touched them, and utterly destroy the small grain and other winter-growing crops.

The same effect as that above described would be noticed upon the various orchards after one or more visitations, either the fruit being entirely destroyed or the product being small, dwarfed fruit entirely unfit for use.

The destruction of timber, orchards, crops, gardens and vegetation generally throughout deponents' section has been much greater during the spring and summer of 1906, than

during the same period of any previous years, and the territory in which said destruction was apparent, has largely increased. The forests are being ruined, and under said conditions will soon be wholly destroyed.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. R. Miller	Farmer & timberman	61	7th Dist. and 2d Sect.
D. S. Searcey	Farmer	30	" "
J. H. Allen	"	50	" "
J. M. Patterson	"	36	" "
H. A. Allen	"	42	" "
J. J. Turner	"	35	" "
T. G. Berry	"	8	10th Dist. "
L. J. Searcey	"	45	7th Dist. "
E. S. Green	Farmer & merchant	17	" "
H. P. Rodgers	Farmer	38	" "
G. P. Hice	"	44	" "
J. S. Holt	"	50	" "
R. O. Harris	"	52	" "
J. S. Smith	Justice of Peace	56	10th Dist. "
B. R. James	Sec. Foreman	36	7th Dist. "
T. C. Patterson		24	" "
O L. Searcey	Farmer	over 50	" "
W. A. Whitener	"	42	" "
R. F. Key	"	21	" "
Marvin Hice	"	20	" "
J. W. Adams	"	25	" "
W. P Tucker		25	" "
T. C. Bates	R R. Employe	16	" "
L. M. Miller	Farmer	20	" "
W. E. Newberry	Mail contractor	18	6th Dist. and 1st Sect.
C. W. Whitener	Farmer	48	7th Dist. and 2d Sect.
T. Searcey		19	" "
A. M. Searcey	Merchant	30	" "
H. M. Miller	Farmer	33	" "
J F. Sharp	"	34	" "
G. H. Hice	"	12	" "
V. S. Whitener	"	22	" "
M. C. Stanley	Lumberman	43	" "
A. R. Stanley	Farmer	10	" "
P. M. Miller	"	31	" "
Ben Whitener		26	" "
Edd. Searcey		17	" "
Willis W. Whitener		17	" "
Glover Pless		16	" "
Dave Whitener		18	" "
Spurgeon Searcey		17	" "
J. M. Tucker	Farmer	60	10th Dist. "

Sworn to and subscribed before me, this 28th day of August, 1906.

J. W. WHITENER,
J. P. and Notary Public, Gilmer county, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing, and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE, YEARS.	DISTRICT.
F. M. Weeks	Farming	57	Noontootley.
J. M. Stanley	"	32	"
R. C. Stanley	"	50	"
Sunfield Stanley	"	12	"
E. L. Weeks	"	25	"
J. W. Keener	"	25	"
C. F. Tendford	"	40	"
W. A. Stanley	"	30	"
Christopher Davis	"	20	"
E. L. Stanley	"	60	"
M. F. Davenport	"	54	"
J. M. Suits	"	5	"

The injury to vegetation during the past sixty days has been unprecedented, far in excess of any injury heretofore.

Sworn to and subscribed before me, this 19th day of September, 1906.

J. M. WHITNER, J. P.,
Notary Public Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

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Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury

to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
his J. B. + Wimpy mark	Farmer	26	958
C. H. Hill	Merchant	35	958
W. C Parks	Farmer	27	958
J. A. Plemson	"	35	958
his T. M. + Hill. mark	"	29	958
John Harper	"	28	958
L. Harper	"	50	958
J. S. Harper	"	31	958
J. H. Harper	"	23	958
W. H. Plemons	"	27	850
J. B. Daves	"	44	958
C. A. Gates	"	22	958
D. V. Dillingham	"	30	850
L. J. Fowler		60	958
J. T. Lunsford	Farmer	30	850
W. E. Carrell	"	54	958
H. Rittenhause	"	25	850
B. W. Dillingham	"	38	850
R. L. Withrow	"	35	958
W. T. Drinan	"	30	Tail's creek.
E. F. Moreland	"	20	"
his J. T. + Cochran mark	"	56	850
his J. A. + Withrow mark	"	45	850
his James + Dupree mark	"	39	850
John H. Sellers	"	35	958

Sworn to and subscribed before me, this 18th day of September, 1906.

D. A. JONES.
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

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Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during

the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE, YEARS.	DISTRICT.
John Lattia	Farmer	15	958.
J. D. Nelson	"	20	907.
E. J. Chastain	Tax Collector	33	932.
C. L. Chester	Farmer	20	850.
Charles Hall		10	850.
F. L. Rittenhouse		20	850.
J. D. Milton		20	958.
John Dale	Farmer	60	850.
H. J. Gautner	Farmer and Teacher	....	
J. G. Ellis	Merchant	35	1341.

Sworn to and subscribed before me, this 15th day of September, 1906.

T. H. TABOR,
Ordinary Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

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Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during

the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. R. Ray	Farmer	54	850 District.
W. J. Whittaker	"	23	850 "
A. R. Weaver	Merchant	7	White Path, Ga.
A. F. Chapman	Farmer	28	Boardtown.
W. A. Holloway	Engineer	35	"
J. H. Dale	Farmer	40	"
G. W. Holloway	Lumberman	37	"
W. F. Harris	"	27	"
W. R. Holleyfie'd			"
C. M. Holt	Farmer	47	Cherry Log.
H. C. Holt	"		" "
D. L. Kopt	Miner		
W. T. Charles	Clerk in store	45	Ellijay, Ga.
E. F. Waters	Merchant	17	" "
W. A. Sutton	"	37	" "
J. W. Harper	"	77	" "
A. A. Scott	"	27	" "
J. E. Rogers	Blacksmithing	33	" "
T. J Pritchett	"	14	" "
J. N. Sellers	Butcher	50	" "
B. F. Quarles	"	23	" "
J. E. Tracy		22	" "
J. H. Elliott	Butcher	43	" "
J. M. Allen	Pole Inspector	32	" "
C. S. Knox	" "	5	" "
S. P. Holt	Farmer	66	" "
W. M. Hampton	"	3	" "

Sworn to and subscribed before me, this 14th day of September, 1906.

D. A. JONES,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during

the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
C. A. Pritchett	Farmer	42	Ellijay.
W. M. Henson	"	17	"
M. A. Clonts	"	7	"
Wm. Parks	"	67	Mountain Town.
L. L. Newberry	"	22	" "
J. W. Fure	Lumberman	30	" "
John Orensberg		22	Ellijay.
B. L. Hensley	Tax Receiver	17	Talona.
Z. Y. Flanigan	Farmer	45	Ellijay.
R. J. Goble	"	38	Town Creek.
W. A. Orme	Hotel Keeper	4	White Path.
H. C. Jones	Saw Mill	27	" "
Jos. Wood	" "	20	" "
C. R. Weaver	" "	15	" "
John Wright	Farmer	50	Carty Coy.
J. H. Waters	"	34	Ellijay.
J. S. Defore	"	20	Tailes Camp.
G. R. Davis	"	28	" "
W. A. Cox	"	43	Ellijay.
N. F. Parks	"	34	Boardtown.
N. L. Tankersly	County School Com	30	Ellijay.
G. W. Stansel	Farmer	31	"
J. M. Barnes	"	37	Round Top.
E. D. Barnes	"	30	" "
N. C. Weeks	Lumberman	23	" "
H. P. Packley	Farmer	26	" "

Sworn to and subscribed before me, this 18th day of September, 1906.

D. A. JONES,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury

to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

The timber is dying within the corporate limits of Ellijay, the county-site of Gilmer county, Ga. After this smoke has settled thickly in the valley at Ellijay, Ga., I have noticed that the weeds and vegetation in the fields and gardens turned brown and dries up to a considerable extent, immediately after the presence of these fumes, especially when there is no air current to carry away the said fumes, and they remain for a considerable time in our neighborhood. Complaint is general throughout this section as to the great damage that is being done by these fumes.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
T. H. Tabor.....	Ordinary and Probate Judge, Gilmer Co., Ga.	51	Ellijay 850, G. M.

Sworn to and subscribed before me, this 17th day of September, 1906.

W. H. GUDGER,
Clerk Superior Court, Gilmer county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury

to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

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The Ducktown smoke has caused my beans, my fruit, both apples and peaches, and my fodder, to rot. The leaves of many of the trees in the forest have been killed by this smoke, and have fallen off. The extent of the damage done by this smoke for the last six weeks has been greater than ever before.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
Lemuel I. Fowler.....	Farmer	60	958

Sworn to and subscribed before me, this 17th day of September, 1906.

T. H. TABOR,
Ordinary Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past

six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

The injury to vegetation during the past sixty days has been unprecedented, far in excess of any injury heretofore.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
R. C. Leadford	Farmer	41	7 dist. 2 sec.
H. G. Young	"	22	" "
W. L. Holt	"	51	" "
J. B Leatherwood	"	42	" "
R. L. Leatherwood	"	26	" "
James Leatherwood	"	23	" "
M. A. Allen	"	38	" "
J. H. Leatherwood	"	21	" "
J. F. Davenport	"	52	" "
J. R. Keener	"	18	" "
C. C. Hamby	"	1	" "
W. H. Lance	"	30	11 dist 2 sec.
J. M. Turner	"	23	7 dist. 2 sec.
K. S. Harris	"	22	" "
T. J. Gibson	"	19	" "
J. L. Gibson	"	30	" "
L. S. Key	"	20	10 dist. 2 sec.
Harley Sharp	"	21	7 dist. 2 sec.
E. H. Moore	"	65	" "
J. F. Greenway	"	5	" "
A. L. Bates	"	17	" "
B. L. Searcy	"	18	" "
C. A. Leadford	"	20	10 dist. 2 sec.
John E. Ledford	"	58	" "
J. G. Greenway	"	5	7 dist. 2 sec.
Charley Hice	"	9	" "
Harley Leatherwood	"	15	" "
S. B. Stanley	"	2	" "

Sworn to and subscribed before me, this 19th day of September, 1906.

J. W. WHITENER,
J. P. and Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned, who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 53 years, deponent's residence being in the Ellijay district of said county. Deponent is engaged in the business of United States deputy marshal, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper

ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine,

hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: On August the 12th last, I left home early and went northwest into mountain. At this time deponent noticed the fumes unusually strong. At this time the timber along Ellijay and Dalton road that I traveled to reach Mountaintown, was apparently healthy and green. Deponent had occasion to travel the same road a week or ten days later, and observed that the timber had been badly damaged in that time. The leaves on the black, Spanish and red oaks were browned and seared; the spikes on the pines were likewise browned, and all the forest and bushes showed like it had all been visited by heavy frost.

This deponent has been United States deputy marshal in this district for the past seven years; prior to this was State Senator, also State representative; was clerk of the superior court; was county treasurer and tax-assessor, all of which occupations called me over and through all portions of the county of Gilmer. Deponent believes from his experience above set out that he has about as good knowledge of the county, the lands, the crops, orchards and forests as any man in the county. Deponent knows of his own knowledge that the fumes from defendants' plants have been present much more frequently in Gilmer county this spring and summer, and in far greater

strength and density, than ever before known, and the damage to crops, orchards and timber since spring, 1906, has been far greater than ever before experienced in this county. If these fumes be allowed to flow over this county in the future as they have since May, this year, and do as much damage as they have accomplished this summer, the forests and orchards of this county will be utterly ruined in a very few years, as damage is now widespread.

T. W. CRAIGO.

Sworn to and subscribed before me, this 19th day of September, 1906.

W. T. PICKETT,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

This deponent is at present tax-receiver of Gilmer county, which office he has held six years. During all this time my official business caused me to visit every militia district in the county during the spring months of April, May and June of every year during all this time. Deponent has also visited this same county every fall, and is by reason of his seventeen years'

residence in the county, and his vocation and experience above set forth thoroughly acquainted with the whole county of Gilmer from end to end. Has had repeated business transactions with every taxpayer in the county, and is personally acquainted with every taxpayer on my digest.

Previous to my election as tax-receiver of the county, I had several years' experience in the lumber business, and am thus a good judge of timber and timber values.

During the early years of my rounds of the county, I particularly noticed the fine timber in the county, particularly the fine chestnut oak in Boardtown, Turniptown, Cherry Log, Diamond and Bucktown districts. Later I noticed that the hickory and chestnut oak timber were dying, and later still, the white pine. Until this summer the timber of nearly every variety has been dying rapidly, even taking the small bushes and ragweeds in many places.

At Cherry Log and Boardtown particularly, has this been true, the damage to these places having been accomplished in a very few weeks. From my personal knowledge of the whole county, I know that the damage to timber, fruit, farms, and all vegetation throughout Gilmer county, has been far greater and multiplied many times over anything ever before known in this county since May, 1906, above referred to. In my opinion, and I am certain from my personal association with nearly every man in the county, I am well qualified to judge, that if the fumes are spread over the county in the future as they have been since the spring of this year, all forestry and the farming interests of Gilmer county will be absolutely destroyed in the course of a few years, as the destruction since May, 1906, has been particularly severe and widespread.

B. L. HENSLEY, Tax-receiver.

Sworn to and subscribed before me, this 15th day of September, 1906.

L. A. JONES,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past

six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
A. M. Johnson	Lumberman	31	Ellijay.
M. E. Suttor	Lumber	20	"
J. W. Holden	Farmer	35	"
H. A. Smith	"	37	"
J. H. Jay	"	13	"
E. W. Nelson	Marble cutter	13	"
W. D. Sparks	Farmer	68	Diamond
T. J. Long	Tanbark	62	Ellijay, Ga.
J. L. Demall	Teaming	14	"
H. H. Conner	Smith	34	"
P. G. Plumby		15	"
A. J. James	Farmer	50	"
T. A. Foster	"	35	"
J. D. Miller	"	45	"
M. Davenport	Farming	27	Bordtown.
D. F. Peish	Farmer	3	"
R. F. Ledford	"	20	907

Sworn to and subscribed before me, this 20th day of September, 1906.

D. A. JONES,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA--County of Gilmer.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury

to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE YEARS.	DISTRICT.
W. C. Orme	Hotel man	4	White Path.
H. C. Jones	Saw Mill	27	"
Jos. Wood	"	20	"
C. R. Weaver	"	15	"
W. B. Jones	Teacher	28	Mt. Town.
R. F. Brown	Farmer	30	Oak Hill.
W. R. Hackley	"	21	Ellijay.
P. D. Brooks	"	1	"
Homer Moran	"	1	"
John Reece	"	32	Pike.

Sworn to and subscribed before me, this 22d day of September, 1906.

J. L. WEAVER,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing, and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. C. Allen	Law	30	Ellijay, Ga.
Wm. Ellington	Farmer.	30	" "
B. L. Holden	Bank Cashier.	30	" "
J. W. C. West	Farmer.	32	Cartesay.
R. E. Smith	Merchant	30	Ellijay, Ga.
E. W. Wilkins	Physician	30	" "
H. M. Ellington	Postmaster.	40	" "
A. N. Davis	Farmer	50	" "
J. P. Chastain	Minister	70	" "
W. J. Plumley	Farmer	60	" "
J. B. Pinson	"	51	" "
A. M. Key	"	40	" "
J. O. Bennett	"	7	" "
W. P. Wells		27	" "
J. W. Withrow	Farmer	50	958 G. M.
C. H. Myers	Jeweler		
D. V. Miller	Farmer	43	958 District, Ga.
I. G. Smith			
C. B. Kelley	Liveryman	15	850 District, Ga.
B. C. Greer	Printer	34	850 " "
T. M. Defoor	Liveryman	39	850 " "

Sworn to and subscribed before me, this 12th day of September, 1906.

T. H. TABOR,
Ordinary Gilmer County, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned, who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater

strength and volume than theretofore noticed by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
E. D. Watkins	Farmer	44	7th Dist. and 2d Sect.
W. L. Rodgers	"	33	" "
T. O Wirley	"	35	10th Dist. "
E. B. Griffin	"	10	7th Dist. "
J. B. Allen	"	45	" "
W. H. Pettit	Timber	58	" "
R. C. Leadford	Farmer	63	" "
J. A. Holt	"	30	" "
N. B. Thomas	"	10	" "
J. W. Pettit	"	32	" "
A. L. Stuart	"	41	" "
Mrs. M. C. Watkins	"	20	" "
B. F. Collins	"	31	" "
Ben Pless	"	20	" "
Joe Pless	"	10	" "
S. Hones	"	20	" "

Sworn to and subscribed before me, this 17th day of September, 1906.

D. S. SEARCEY,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned, who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater

strength and volume than theretofore noticed by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. M. Frady	Farmer	34	907 Dist. Boardtown.
J. A. Harper	"	10	" "
A. M. Jones	"	40	" "
R. L. Key	"	40	" "
A. G. Ward	"	45	" "
Edd Parks	"	15	" "
Will Lively	"	30	" "
Chris Plemons	"	24	" "
J. H. Smith	"	24	" "

Sworn to and subscribed before me, this 15th day of September, 1906.

J. S. SMITH,
J. P. and Notary Public, Gilmer county, Georiga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said county, and is familiar with farming conditions, timber interests, farms, lands, orchards

and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than heretofore, and was present in greater volume and strength than heretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collars, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a

rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white, oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. On several occasions the smoke has settled in great strength, and immediately thereafter garden truck would wilt and look scalded; the blades of the corn wither, and even the leaves on the trees would shrivel up, turn brown and shortly afterward frequently fall to the ground, as is the case in the late fall.

E. D. Watkins, W. L. Rodgers, T. O. Wirley, E. B. Griffin, J. B. Allen, W. H. Pettit, J. A. Holt, R. C. Leadford, N. B. Thomas, J. W. Pettit, A. L. Stuart, Mrs. M. C. Watkins,, B. F. Collins, Ben Jless, Jos. Pless, S. Harris.

Sworn to and subscribed before me, this 17th day of September, 1906.

D. S. Searcey,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty years, deponent's residence being in the Boardtown district of said county. Deponent is engaged in the business of farming and lumber, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enter-

prise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Amond the instances coming directly under the deponent's observation: On September 14th last the smoke settled down thick on a leading ridge in front of my home and all about my house. Before this time the timber and foliage was green, fresh and healthy. The next afternoon after the sun had shone on it at least one-third of all the timber and bushes showed brown and seared, as if it had been visited by a heavy frost. The fall flowers all around the house wilted also, as it hot water had been poured onto them.

This deponent is particularly familiar with the forests and timber throughout Gilmer county, having followed the lumber business in this county for some thirty years, buying, selling and manufacutring lumber for market. Has been familiar with the death and destruction of timber since the appearance of these fumes of defendants' in this county. From deponent's knowledge of the county, the timber and forests, gained by my thirty years' active experience connected with them, deponent knows of his own personal knowledge that the damage wrought this spring and summer to all crops, foliage, orchards and timber throughout Gilmer county, has been multiplied many times since May, 1906, over anything ever before experienced in this county. Particularly has this been true during and since the last six weeks.

Deponent knows of his own knowledge if this damage be not arrested and abated in the immediate future, and if same be allowed to increase in the future, as it has increased since May, 1906, that it will be only a matter of a very short time until all vegetation and timber in Gilmer county will be entirely ruined, as damage is already widespread.

This deponent has some 400 acres of choice timber that he has been saving for a number of years, and which he was not desirous of putting on the market at this time, but since the heavy destruction wrought among it this summer he is now

moving his saw-mill into it to cut it at once and save all of it he can.

A. M. JONES.

Sworn to and subscribed before me, this 18th day of September, 1906.

W. T. PICKETT,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifteen to twenty years, deponent's residence being in the 907 G. M. district of said county. Deponent is engaged in the business of ..... and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defend-

ants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which de-

ponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation were upon July 11 and August 5, 1906; at said times the smoke appeared in great volumes of density and strength. Immediately thereafter the peas, beans, tomatoes and also sorn and ragweeds crumbled up, withered and died. Other vegetables were killed in a single day or night at other times, but upon said dates the damage and destruction was particularly great; prior to the present summer the damage was comparatively small and only occasionally to be found; at the present time it is general. Practicaly no locality in deponent's neighborhood has escaped; the damage has been enormous and whole bodies of timber has been destroyed in the last few months.

T. M. Jones	Santa Luca	22	Farmer.
G. C. Smith	" "	23	"
C. E Pritchett		30	Farming.
S. A. Clontz		43	"
G. C. Parks		18	"
H. J. Jones			Farmer.
M. C. Rogers	Ollie	20	"
D. T Dilbeck		46	"
Charles Patterson	Santa Luca	45	Miller.
W. I. McVey	" "		

Sworn to and subscribed before me, this 6th day of September, 1906.

J. S. SMITH,
J. P. and Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty-one years, deponent's residence being in the Elijay district of said county. Deponent is engaged in the business of carpenter, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes,

and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among

the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the the deponent's observation: This deponent was at Turniptown church, Gilmer county, Ga., some thirty miles from defendants' works, Sunday, August 5, 1906. At this time the timber along the road I traveled was healthy, fresh and green. Deponent returned over the same road to the same country, viz.: Sunday, September 2, 1906, and in the meantime hundreds of trees had turned brown, as though the leaves had been frost-bitten. Many of these had shed their leaves, and could have been burnt had a match been applied.

Deponent noticed the gas and fumes of the defendants' furnaces thick and unusually strong in my neighborhood in East Ellijay on Friday, August 31, 1906. Immediately afterward I noticed my cabbage and beans were badly damaged, the leaves appeared as though they had been scalded, and the cabbages are ruined.

The leaves on the beans are shriveled and seared as though they were frostbitten, and are ruined.

Deponent has had some experience with saw-milling in this county, and is familiar with much of the timber in this county. Deponent knows of his own personal knowledge that the damage to timber and vegetation is far greater than ever before

known, and that since May, 1906, the destruction of timber and vegetation has been multiplied many times over anything he ever observed before.

T. D. KENSON,

Sworn to and subscribed before me, this 6th day of September, 1906.

D. A. JONES,
Notary Public.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, is a property-holder in said county, and is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the

eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the past few months. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among

the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Prior to the present spring and summer the injury throughout a considerable portion of deponent's district was comparatively small. During the present year, however, the destruction of vegetation has been enormous. During the present summer whole hills or mountain-sides of timber facing northward and toward Ducktown have been killed. Many neighborhoods not theretofore affected experienced great injury. Of the instances come specially under deponent's observation of vegetation killed in a single night were July 11th, and August 5, 1906. At said times the fumes were present in particularly dense form, and strong odor. Immediately after the presence of said fumes, August 5th, the beans, peas and tomatoes in deponent's garden withered and shriveled up. Other vegetation was destroyed on July 11th. The strength of the fumes and destruction wrought caused deponent to specially note the time. Other vegetables were killed at different times, but the destruction was not so great.

W. A. Whitener.	J. R. Miller.	T. G. Berry.
D. S. Searcey.	J. H. Allen.	R. O. Harris.
L. J. Searcey.	J. J. Turner.	G. H. Hice.

Sworn to and subscribed before me, this 28th day of August, 1906.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, is a property-holder in said county, and is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enter-

prise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been

abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation were those of July 11th and August 5th, 1906. On said days the smoke was present in unusual volume, density and strength. After its appearance the beans, peas, tomatoes, and even corn and rag-weeds, shriveled up and withere. Other vegetation has been killed in a single day, but at said times the destruction was most widespread.

In many localities of the deponent's section no great injury was apparent until this spring and summer. This year even hills and mountainous barriers did not seem to stop the progress of the fumes. During the past few months, however, the damage has been enormous. Whole hillsides of timber have been utterly destroyed. Practically no part of deponent's district has been exempt, and where injury was previously noticeable, more damage has been done during the spring and summer of 1906 than in the entire time theretofore.

C. W. Whitener.	Marvin Hice.	H. W. Miller.
J. T. Hoke.	J. W. Adams.	J. F. Sharp.
G. P. Hice.	W. P. Tucker.	H. A. Allen.
J. W. Whitener.	L. M. Miller.	P. M. Miller.
J. S. Smith.	F. C. Bates.	J. M. Tucker.
O. L. Searcy.	A. M. Searcey.	

Sworn to and subscribed before me, this 28th day of August, 1906.

D. S. SEARCEY,
Notary Public, Gilmer county, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty-five years, deponents residence being in the tenth district, second section of said county. Deponent is engaged in the business of farmer and lumberman, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: On August 17th, this deponent noticed these fumes unusually strong at my home-place, situated in East Ellijay, Gilmer county. The next afternoon this deponent noticed the leaves and twigs on his young apple-orchard were badly affected. The leaves in next three or four days wilted, turned brown and seared like they had been scalded or visited by heavy frost, though no frost has occurred this summer. The leaves on the oak in the same neighborhood turned brown and are now falling fast, so that the ground is covered in many places so thick with this season's dead leaves that they would burn if a match were applied.

This deponent is well acquainted with the timber in this county, having been in this business for some time, and been in consequence all over and through the woods. This affiant knows of his own knowledge that since May, 1906, the destruction to timber, vegetation and crops all throughout this county, and deponent's home district especially, has been multiplied many times over anything ever before known, and should it be not stopped and devastation be as great hereafter as it has been since May above referred to, that the timber, orchards and all vegetation will shortly be ruined in Gilmer county.

W. H. Shepard.

Sworn to and subscribed before me, this 10th day of September, 1906.

W. T. Pickett.
Notary Public, Gilmer county, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for thirty-six years, deponent's residence being in the Ellijay district of said county. Deponent is engaged in the business of farmer, and is a proyerty-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: This deponent lives four miles north of Ellijay, and owns some 400 acres of land there, where he resides. Along about the midde of June the smoke from the mines dropped down thicker and stronger than I ever saw it. Before this time everything was green and thrifty on my place, and in my neighborhood. Within the next two days the ragweeds were parched and brown like hot water had been poured over them. The flowers and grass about the house was seared and wilted, and in a few days the flowers shed their leaves. The peas were likewise ruined and wilted like they had been visited by a heavy frost. I had a young orchard growing on my place, the leaves and all young and tender growth was wilted, and leaves turned brown. My timber, too, showed the evil effects, the leaves turning brown and all the country around seemed as if hit by a severe frost, though none has occurred this summer. The leaves now all throughout my timber, and all throughout my section, are falling like they do in early winter.

This deponent knows of his own knowledge that since the high stack has been in use, since Mal, 1907, that the damage to all vegetation in his neighborhood has been multiplied and high stack has been in use, since May, 1906, that the damage continues next season, as it has since May, 1906, all the timber, fruit trees and vegetation will be entirely ruined and killed in my neighborhood in another year, as at least half of it is

now dead. My home and lands above referred to are some twenty-four miles in an airline from the mines and smelters.

his
H. M. X JAMES,
mark.

Sworn to and subscribed before me, this 8th day of September, 1906.

T. H. TABOR,
Ordinary of Gilmer county, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for sixty years, deponent's residence being in the Cartecay district of said county. Deponent is engaged in the business of farmer and fruit-grower, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his lo-

cality, and is also familiar with the location of defendants' mines.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear(bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than thereofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appear-

ance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of timber and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and lookd as though it had experienced a severe frost.

This has been especialy the case during the past spring and summer. Among the instances coming directly under the deponent's observation: This deponent has a large apple and peach orchard containing some 700 trees, situated some eleven miles south of Ellijay, in Gilmer county, near the edge of Pickens county. On September 1st these fumes dropped down on my place enveloping everything. I noticed it particularly strong among my timber covering the face of the mountain. Before this time this timber was in good cordition. The timber, since, shows the evil effect of this smoke. The leaves on the chestnut and oak and walnut timber turned brown and have fallen, and all acted as if visited by a heavy frost, though none has been present this summer.

The destruction to timber and vegetation in my neighborhood has been far greater this summer than ever before observed, and the damage is much wider and covers far more territory than ever before. The damage above cited is some thirty-five miles from the furnaces of the defendants, in an airline.

If damage increase in the future as it has increased since May, 1906, in my judgment the whole forests and orchards in

my part of the county will be ruined, as damage is now widespread.

R. B. EVANS.

I have read the foregoing affidavit, and as I am a tenant on Mr. Evans' place, am acquainted with the timber and conditions there to-day, and know of my own knowledge that the above affidavit is correct and true.

Sworn to and subscribed before me, this 5th day of September, 1906.

L. J. MULKEY.

WM. ELLINGTON,

Notary Public and ex-officio J. P., Gilmer county, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty years, deponent's residence being in the tenth and second districts of said county. Deponent is engaged in

the business of farmer and lumberman, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor or fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character, and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than heretofore, and was present in greater volume and strength than heretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing

farm crops consisting mainly of wheat, rye and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost.

This deponent along about July 17, 1906, noticed those fumes as he was journeying along the Dalton and Ellijay road some two or three miles west of Ellijay, Ga. They were particularly strong and unpleasant. They could be seen plainly and they were offensive and had settled like a fog over the timber and surrounding country in this immediate neighborhood. At this time the timber and vegetation all about seemed green, thrifty and healthy. Some eight or ten days thereafter, viz., along the latter part of July, this deponent had occasion to travel this same road and in doing so it was apparent on every hand that the timber that was green and thrifty ten days previous when the fumes were first smelt so strong, had in the interval turned brown and were sered the same as if they had been visited by heavy frost or fire, and the leaves are now dropping from said trees and bushes. This deponent has repeatedly noticed these fumes throughout all sections of Gilmer county where he has visited and they appear far more frequent and

with much greater density than ever before in the history of this country. This deponent is familiar with the destruction wrought by these fumes prior to the spring of this year and has given affidavit previously in this same case. Since the spring of 1906 these fumes have been present much more frequently and in far greater strength than ever known before. While heretofore the damage to timber and vegetation was usually accomplished gradually, but since the spring and summer of this year and since the fumes have been present with so much greater frequency and such increased strength the destruction to timber and vegetation has been accomplished in a very short space of time. From deponent's knowledge of conditions generally throughout this county prior to the spring of 1906 and deponent's knowledge and acquaintance since this time, deponents states of his own knowledge that the destruction to timber and vegetation throughout his section has been multiplied many times over anything ever before known in these parts, and if relief be not had immediately and the present destruction continues as it has since May of this year all the forest, timber and orchards in Gilmer county will be ruined absolutely in the very near future.

A. E. SHARP.

I have read carefully the foregoing affidavit and know same to be true, particularly the part relating to the destruction to timber on the Dalton and Ellijay road in the neighborhood of Ellijay, Ga.

L. M. WITHROW.

Sworn to and subscribed before me, this 31st day of August, 1906.

W. T. PICKETT,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for ..... years, deponent's residence being in the Ellijay district of said county. Deponent is engaged in the business of farming and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge

of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been aban-

doned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation, on the 27th, 28th and 29th of August just passed this deponent observed these fumes and gases very strong, in fact stronger than ever before observed. These fumes enveloped the timber on my place some five miles north of Ellijay. In a day or two after this time I noticed about half of my timber where I had observed these fumes so strong was badly affected. The leaves turned brown and shriveled up and fell to the ground, and much of it was killed. In places on my land to-day the dead and withered leaves, that grew this year, lay on the ground dry and thick enough to burn were a match applied. All this timber put out green and healthy in the spring and has been killed since. At the same time my beans, peas, tomatoes, cabbage and potatoes all seemed as if they had been visited by slight frost, and none of these have produced as in seasons past. This deponent states of his own knowledge that since the erection of the high stack by the Tennessee Copper Company this spring that the damage to timber and vegetation in his own neighborhood and other districts adjoining has been multiplied over anything ever before known. This damage, too, seems to be accomplished in a much shorter time this spring, as said gases and fumes seem to have a much greater killing power. If this damage be not speedily arrested vegetation will be entirely ruined in this county, as the injury is now widespread.

H. S. Jones.

Sworn to and subscribed before me this 4th day of September, 1906.

T. H. Tabor, Ordinary.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared R. D. Ralston, who first being duly sworn in the above-styled and numbered cause, deposes and says:

Deponent is a resident, citizen and land-owner in the State of Georgia and county of Fannin. Deponent has resided in Fannin county for the past twenty-five years, and is thoroughly acquainted with the county of Fannin, the timber, crops, etc. Deponent is by profession a farmer and lumberman. Deponent heretofore has made affidavit in this same case relative to the destruction of timber and vegetation by the Ducktown fumes, and the damage heretofore has been quite heavy, but the damage since May, 1906, to timber and all vegetation by these fumes, has been far greater than during the whole twenty-five years preceding this. Deponent has noticed the smoke or fumes very often since May in his neighborhood, and this would be noticed at almost any time of the day whenever the wind seemed to be in the direction of defendants' mines and works, while heretofore, that is, prior to May of this year, this deponent never noticed the smoke in his neighborhood except late at night and early in the morning, when the atmosphere was damp and heavy.

There is a great deal of the country that this deponent is thoroughly acquainted with that never showed any evil effects of these fumes until this summer, and since which time much of the timber and vegetation has been killed in full leaf, the timber having put out in the spring in a healthy and vigorous condition, and has been killed since, particularly is this true on the Willscot mountain on the sides exposed towards the mines, where heretofore the timber had looked green, thrifty and healthy, it is now nearly all killed and ruined, so that the whole side of the mountain looks as though it were a deadening, all of which has occurred this summer, and there is no other cause to account for the destruction of the timber except the fumes from the defendants' mines, which have been present so frequently in this section.

R. D. RALSTON,

Sworn to and subscribed before me, this 14th day of August, 1906.

W. T. PICKETT,
Notary Public, Gilmer County, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared M. L. Mauney, who first being duly sworn in the above stated case, deposes and says:

That he is a resident of Murphy, Cherokee county, North Carolina. Deponent is fifty-three years of age, and is by profession a forester or timber man, and has been engaged in his vocation cruising, buying and selling timber lands and timber in the counties of Gilmer, Fannine, Union and Towns, State of Georgia, for the past four years, during which time this deponent has been constantly in, upon, over and through the timber in said counties and is thoroughly familiar with same, its market value, condition and location.

This deponent has been to the works of the above defendants in this case and has come in contact with the gases and fumes that are generated there, so that he has become thoroughly acquainted with same. Has also noticed the destruction of timber and vegetation caused by these fumes immediately about the different plants, and has traced these effects from said plants thirty-five or forty miles into the territory of this State. The destruction to timber and vegetation with rare exceptions grow less and less as the distance from the above plants increases. Deponent had heretofore noticed destruction to timber, such as hickory, white pine, chestnut-oak and chestnut in the mountains, usually on the north side, which is always the side towards Ducktown from this territory, where usually the best timber is always found. Since May this year deponent has noticed that this destruction has been multiplied many times over anything that he has ever noticed before. Deponent further states that during the month of May, June and July this year that he has often seen and smelt these gases from these defendants' works which would settle down in a particular country and would be strong and offensive to the smell. In a few days afterwards acres of timber in this neighborhood where the smoke had dropped would turn yellow and the leaves brown and shriveled up the same as if the timber had been deadened or struck by a heavy frost or fire, and the leaves would wither, dry up and fall off. This would occur with all varieties of timber in the locality where the smoke had visited and seemed to respect nothing. It would kill the old, young and all vegetation, making a clean sweep of everything on the ground. This has been particularly noticed in the Wilscott mountain, the Davenport mountain, and other mountains near them. Said mountains being situated in Fannin county, Georgia, some twenty miles from the defendants' works. Never before until this summer has this deponent seen or noticed these fumes anything like so

often nor near so strong and in such a condensed form as they have appeared all throughout this territory at almost all hours of the day or night whenever the wind was from the direction of the defendants' plants. Particularly was this noticed during the months of May, June and July of this year above referred to.

During the above mentioned time and during deponent's experience in this State he has been actively employed in the woods by Lucius Beebe & Sons, of Boston, Mass., and the United States Leather Company. Deponent, from the tops of some of the mountains in this State has seen the high stack of the defendants, and has watched the smoke and fumes drift out of this stack and settle into the territory of this State, and this deponent knows from his own experience and observation that the fumes coming from this stack in their present concentrated form are far more deadly to all timber and vegetation than any other process that has been used in this territory for the past four years. The high stack in deponent's opinion and knowledge only tends to concentrate the fumes and gases and give them a better carrying power so that the prevailing winds drift them much further into the territory of this State, and make them far more deadly to all vegetation where they settle, as I have seen them do repeatedly during the months of May, June and July above referred to.

M. L. Mauney.

Sworn to and subscribed before me, this the 21st day of August, 1906.

W. T. Pickett,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared before the undersigned, W. F. Hampton, who being duly sworn on the above-styled case deposes and says:

That he was present at Harpertown when the defendant companies' representatives were taking affidavits in the above matter, that there it was represented to him, by said representatives of the copper companies, that they intended to put in an acid plant and condense and relieve the country of these obnoxious fumes, and that all they were asking was a little time in which to do it; said representatives stated that the present action of the State of Georgia would close them up and put them out of business. This deponent and many others, not wanting this institution put out of business entirely, did give permission for his name to be affixed to a certain petition. Deponent further says that if these companies were put out of business the country, being almost ruined, as at present, it would be a great loss to this community, as the people have been deprived of the use of their timber and lands, and it would be a great hardship to them.

The above ideas were repeatedly expressed, and argued by the parties in this meeting, and no doubt in the world caused

any to sign or give permission for their names to be affixed
o the defendants' petition.

Deponent further states that he did not sign the petition of
he defendants, and that he stated in the open meeting that if
was simply a question of a little time that the companies
ere asking, and nothing else, he would be willing to have his
ame affixed, but that he could not sign any petition against
he interests of the farmers and the vegetation in this district,
ll of which he knew had suffered terribly.

W. F. HAMPTON.

Sworn to and subscribed before me this the 19th day of
larch, 1906.

W. T. PICKETT,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned, who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed by deponent in

localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

The destruction of timber and vegetation during the past few months, and especially June, July and August, 1906, has been enormous. Each month the injury has increased.

Some parts of the county theretofore protected have suffered greater damage during the present spring and summer than was theretofore experienced by unprotected localities during the entire time of defendants' operations. Throughout deponents' locality there has been hardly a farm or garden that has not had crops or vegetables to shrivel, wither and die after a single day or night of the presence of said fumes. Certain it is that the injury this summer is widespread and practically no one has escaped. In many localities more damage has been done during June, July and August, 1906, than was found during the entire time the defendants' plants was operated theretofore. In fact, such is the general result throughout deponents' section.

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NAME.	OCCUPATION.	LENGTH OF RESIDENCE YEARS.	DISTRICT.
John McNeely	Bookkeepr Union Tan.Co	25	Mineral Bluff.
A. F. Berton	Union Tannery	4	
W. A. Granway	"	49	
F. N. Moore	"	23	10 Dist. W. C.
W. J. Whitesides	"	2	
E E. Robinson	"		Union Co.
H. L. Ross	"	26	Fannin Co.
A. K. Barton	"	8	Union Co.
J. W. Dillad	"	43	Fannin Co.
R. Poe		6	" "
T. W. Davis		10	
Guss Bennet		1	
Jno. M. Davis		10	
W. D. Davis		9	
D. L Stanley		2½	
Bruce Mull		39	
E. J. Henry		28	
J. H. Gibb		32	
W. M. Robertson		8	
M. P. Davis			
U S. Mull		33	
Chas. Corn		23	
S. F. Dean		7	
W. J. Witt		25	
B. C. Mull		30	
E. H. Newton	Farmer	58	
F. M. Harper	"	48	Hot House.
Thos. J. Wilson	"	49	" "
S. L. Henson	"	35	" "
A. F. Mull	"	45	" "
Jas. B. Dickey	"	40	Mineral Bluff.
B. C. Mull	"	35	Hot House.
J. P. Dilland	"	53	" "
M. Farmer		40	Mineral Bluff.
L W. Smith		1	" "
J. J. Barnes		5	Fair Play.
W. R. McNelly		23	Mineral Bluff.
Fred Forrester		12	Hot House.
A. J. Bell			
R. H. Abercrombie		60	Morganton.
J. H. Ross		24	Mineral Bluff.
S. P. Henry		66	" "
T. H. Henry		24	" "
H. M. Henry		23	" "
J. F. Bramblett		3	" "
J. V. Smith	Farmer	20	" "
E. F. McGee	Clerk	1	" "
A. F. Christopher	M. D.	5	" "
G. P. Dicky	Merchant	53	" "
H. G. Dicky	"	30	" "
G. M. Dicky	"	54	" "
W. R Butt		33	" "
Ralet Hampton		8	" "
W. A. Black		7	" "
Wade Allen	Barber	30	" "
W. T. L. Dickey	Agt. River Tans. & Lum. Co	40	" "
C. G. Baugh	Timberman	48	" "

Sworn to and subscribed before me on the 29th day of August, 1906.

FRED FORRESTER,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned, who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous

copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had

greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter

destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
T. J. Ledford	Farmer	26	Toccoa.
B. L. Prints	Physician	14	Morganton.
T. H. Stephens	Mail carrier	21	Noontootla.
I. D. Falls	Farmer	70	Toccoa.
A. P. Johnson	Merchant	32	"
W. J. Ballew	"	10	Morganton.
John B. Green	Lumberman	31	Toccoa.
M. J. Jones	Farmer	29	"
W. B. Lovingood	Farmer & Shr'ff.	41	"
W. H. Genson	Farming	34	"
A. Beauer	Farmer	6	Morganton.
J. M. Johnson	Merchandise	3	"
W. G. Richards	Farmer	54	Hemptown.
I. C. Standridge	"	3	Morganton.
A. L. Standridge	"	3	"
R. L. Meadors	L. C.	38	"
W. S. Abercrombie	Farmer	35	"
Rev. R. B. Clemant	"	3	"
J. M. Carter	"	14	"
N. W. Freeman	"	41	"
Z. T Green	"	2	"
W. T. Gulledge	"	10	"
S. D. Smith	"	3	"
F. J. Wilson	"	50	"
A. H. Morris	"	56	Hemptown.
I. L. Trammell	"	57	Blue Ridge.
J. H. Crawford	"	40	"
W. H. Deaver	"	32	Noontootla.
J. A. Freeman	"	3	Morganton.
T. G. Legg	"	38	"
J. M. Cook	"	40	Hemptown.
W. B. Richards	"	38	"
G. W. Wright	"	25	

Sworn to and subscribed before me, this 5th day of September, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned, who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

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This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed by deponent in

localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
G. W. Bryan	Farmer	6	Hemp.
J. T Leguire	Merchant	16 months	Morganton.
A. H. Hughs	Farmer	18	Hemp.
H. D. Payne	Teacher	26	Hurst.
Bert Richards	Farmer	22	Hemp.
Poly Richards	"	27	"
Samuel Anthony	"	2	Morganton.
J. V. Beaver	"	20	"
J. E. Wright	"	18	"
D. Whitesides	"	2½	"
W. J. Hays	"	2	Hemp.
Jim Parker	"	20	"
Sidney Orten	"	60	"
J. B. Orten	"	24	"
W. J. Bivens	"	28	"
R. W. Nichols	Merchant	33	Hurst.
J. J. Wall	Farmer	5	"
W. V. Daves	Teacher and Farmer	32	"
W. D. Crewse	Farmer	32	"
J. K. Crewse	"	25	"
W. L. Green	"	1	"
J. A. Moore	Merchant	60	"
A. J. Warren	Farmer	36	"
J. H. Nichols	"	37	"
Grant Crawford	"	39	"
J. T. Cochran	"	38	"
H. A. Winstead	"	6	"
R. R. Crawford	"	33	"

Sworn to and subscribed before me, this 10th day of September, 1906.

G. D. NIXON,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned, who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character

of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed by deponent in localities much nearer to defendants' plant. In sections where

said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
R. W. Woody	Farmer	30	Noontoola.
J. W. Davis	"	32	"
Homer A. Legg	Student	26	Morganton.
D. W. Wilson	Farmer	45	"
W. R. Cook	"	5	Sugar Creek.
J. F. Chastain	"	53	Toccoa.
B. L. Smith	Printer	32	"
J. D. Chastain	Farmer	45	Sugar Creek.
J. M. Kirby	"	26	Stock Hill.
J. S. Chastain	Sawmilling	45	Morganton.
G. C. Seabolt	Blacksmith	37	Toccoa.
D. M. Buchanan	Farmer	40	"
J. S. Buchanan	"	56	"
J. C. Powell	Rep. Fannin Co.	33	Morganton.
S. T. Davenport	Farmer	34	Noontoola.
C. O. Shell	"	51	Toccoa.
G. V. Cochran	Machine Agent	41	"
J. S. Guy	Farmer	40	Flint Hill.
A. E. Cox	"	55	Morganton.
J. W. Davenport		25	Toccoa.
T. T. Fain, M.D		40	Blue Ridge.
I. F. Smith	Farmer	60	Morganton.
J. H. Watkins	"	39	Gilmer county.
John B. Paym	Salesman	30	Toccoa.
L. A. Germon	Farmer	30	Morganton.
L. J. Germon	"	22	"
A. F. Bass	"	59	Sugar Creek.
Hayden Arp	Merchant	35	"
W. C. Balmy	"	19	Toccoa.
G. W. McAfee	Restaurant	7	"
Wm. M. Wilson	Postmaster	18	"
W. A. Daves	Ordinary	49	Morganton.
Jno. A. Wilson	Ass't P. M	32	Toccoa.

Sworn to and subscribed before me, this 3d day of September, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

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localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

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The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers of trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chetnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already widespread.

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NAME	OCCUPATION	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
G. W. A. Lanning	Farmer	35	1130
Thomas Payne	"	37	"
G. N. Tanksley	"	26	"
J. L. Patterson	"	26	"
Robert M. Cole	"	14	"
Sarah Patterson	"	44	"
Wm. Godfrey	"	51	"
S. W. Dunn	"	30	"
J. L. Payne	"	28	"
George Patterson	"	34	"
Larange Cantrel	"	27	"
John Payne	"	20	"
Faney H. Thomas	"	34	"
John Patterson	"	71	"
J. J. Payne	"	30	"
Thomas Patterson	"	25	"
John Patterson	"	36	"
W. A. Deal	"	26	"
Simon Payne	"	21	"
J. H. Payne	"	23	"
Bondick Hall	"	40	"
J. S. Patterson	"	23	"
M. V. Pelfrey	"	19	"
J. M. Allen	"	24	"

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
E. J. McClure	Farmer	46	Toccoa.
Berton Weaver	"	60	"
W. F. Thomas	"	69	Colwell.
B. F. Kincaid		66	Toccoa.
G. W. Ross	"	62	Mineral Bluff.
B. F. Burk	"	55	Sugar Creek.
W. F. Stundley	U. S. Dept. Marshal	56	Noontoolla.
G. D. Bailey	Farmer	42	Sugar Creek.
G. D. Nixon	"	22	Morganton.
B. M. Tilly	"	55	Wilscot.
John A. Long	"	38	Rock Creek.
J. A. Jones	Stock buyer	10	Toccoa.
Jas. P. Ritchie, T. C.	Farmer	35	Caldwell.
James Cook	" and timberman	37	Hemptown.
John E. Cook	" " "	31	Hemptown.
T. N. Thomas	Blacksmith	54	Toccoa.

Sworn to and subscribed before me, this 18th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character

of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist of vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

Particularly has this been the case during the spring and summer of this year, while heretofore, viz.: prior to May, 1906, these fumes were rarely ever noticed in deponent's neighborhood except late at night or early in the morning, but since this time these fumes have been present at times all hours of the day or night whenever the wind was from the direction of defendants' mines. Their appearance, too, has been marked more frequently and the fumes have been present in far greater strength and density than ever observed before. While before the spring and summer above mentioned, the destruction to timber and vegetation seemed to be accomplished gradually, since May of this year the destruction wrought has been much more signal than ever before known. Whenever said fumes have been noticed in unusual strength and volume in each of deponent's neighborhoods immediately thereafter, viz., in the next three or four days the timber and vegetation that had been enveloped in said fumes and exposed thereto would immediately show the evil effects of the same. The leaves on the timber would turn brown, shrivel up and fall from the trees. The corn leaves would be burnt and shrivel. The leaves on the peas and beans would likewise be wilted, and even the ragweeds and other hardy plants would wilt and perish as if the whole section had been visited by a severe frost.

Since the above spring and summer the fumes seem to have been given an increased carrying power, and seemed to have

been condensed and concentrated and made far more deadly. They seem to have mounted higher altitude and been able to pass barriers of mountains and hills that hithertofore seemed to protect certain sections where no damage had heretofore appeared. Since the above time referred to these barriers have been passed and new sections have been blighted and devastated that have never before been visited. Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year have been raised throughout said section. The winter-growing crops consisting largely of wheat, rye, and small grain generally, and market or garden truck, of turnips, collards, mustards and greens and like winter-growing vegetables. The farms prior to the appearance of the fumes above mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia where deponent resides are exceedingly large and valuable. Among the species of trees found are white pine, yellow pine, hemlock, white and chestnut oak, and other varieties. The white pine, yellow pine, hemlock, and other conifers, or trees of the evergreen varieties being in leaf throughout the winter. Some species of timber in the forest, such as hickory and chestnut oak have been almost exterminated, and fruit trees throughout considerable areas are badly damaged. The destruction to timber, crops and orchards has been far greater during the spring and summer of 1906, and the territory showing destruction vastly widened and increased over anything ever before known. Each deponent knows of his own knowledge that since May of this year that the destruction to timber and vegetation has been multiplied many times over anything ever before experienced, and said destruction has been wrought and accomplished in much less time. Should the destruction of timber, orchards and crops continue in the future as it has since May of this year, the complete and utter destruction of all timber and orchards is near at hand, as the destruction is already widespread.

NAME.	NO. YEARS IN COUNTY.	OCCUPATION.	DIST.	SECT.
G. M. Bryan	25	Farmer	1242	61
N. A. Phillips	6	"	1242	61
J. N. Frasure	50		71	
G. S. Nelson	15	Timber Insp'r	10th &	1st
R. A. Tanner	62	Farmer	1242	61
M. J. Gilreath	12	"	1242	61
B. L. Meers.	22	"	1242	61
F. L. Scholt	12	"	124	61
Thos. Bridges	25	"	1242	61

Sworn to and subscribed before me, this 14th day of September, 1906.

H. T. BARTON, N. P. and J. P.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
T. E. Dye	Farmer	23	Mineral Bluff.
W. G. Dye.	"	33	Hot House.
J. W. Dye	"	20	" "
S. White	"	15	Mineral Bluff.
O. M. Hendon	"	23	Hot House.
W. C. Bullen	"	25	Mineral Bluff.
E. L. Fortner	"	5	" "
G. de Vries	"	8	" "
G. M. Gibbs	"	39	" "
H. B. Hyde	"	23	Hot House.
Wm. Gartner	Merchant and Farmer.	13	Hemptown.
Enoch Hunter	Farmer	49	Morganton.
Richard Worfolk	"	30	Hot House.
Osborn Williams	"	52	Morganton.
W. O. Williams	"	26	"
J. L. Gray	"	52	Fair Play.
T. C. Kendall	"	31	Morganton.
M. S. Beaver	"	26	"
W. A. Wilson	"	18	"
L. V. King	"	6	"
R. M. Wright	"	52	"
John Carter	"	13	"
Marion McNeely	"	30	Toccoa.
Riley Hicks	"	35	"
D. R. Payne	"	34	Flint Hill.
Buice Godfrey	"	52	Sugar Creek.
Wade Godfrey	"	27	" "

NAME	OCCUPATION	LENGTH OF RESIDENCE. YEARS.	DISTRICT
W. M. Allen	Merchant	35	Toccoa
C. P. Stuart	Electrician	21	"
J. B. McKiney	Lumberman	42	"
Edgar N. Bent	Optician	34	"
J. W. Hipp	Hotel	3	"
Jno. M. Jans	Railroading	12	"
J. J. Premit	Merchant	45	"
J. W. Brinkly	Carpenter	10	"
F. N. Cook	Merchant	34	"
G. E. L. Falls	Doctor	53	"
Jacob Weaver	Farmer	50	"
W. S. Bailey	"	40	Morganton
Willis Abercrumbia	"	33	"
T. K. Cook	"	16	Hempton
W. K. Vanhook	"	49	Fairplay
W. H. Famer	"	40	Mineral Bluff
S. T. Richards	"	53	Morganton
H. D. Cochran	"	25	Hempton
G. D. Teat	Ed. Newspaper	3	Toccoa
Bruce Mull	Farmer	39	Mineral Bluff
M. H. Gibbs	"	25	Hot House
J. M. Falls	"	48	Mineral Bluff
Thos. W. Buelew	"	53	Hot House
J. B. Adams	"	3	Mineral Bluff
Andrew White	"	12	" "
James C. Dilhard	"	35	Hot House
J. B. Dye	"	25	" "

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
Moses Payne	Farming	29	Morganton.
Burl Payne	"	18	"
John Warren	"	17	"
Dallas Payne	"	22	"
Andrew Bramlett	"	12	Skeniah.
Bud Rickets	"	19	"
E. L. Bramlett	"	50	"
Dee Tow	"	16	"
Silny Seabolt	"	17	"
J. A. Taffar	"	19	Upper Young Cane
James Taffar	"	17	" " "
James Thomas	"	22	Skeniah.
Green Walker	"	20	"
Jernis Walker	"	19	"
Joel Walker	"	18	"
Binum Walker	"	16	"
G. L Seaboldt	"	14	"
W. M. Taffar	"	14	Upper Young Cane
J. C. Bramlett	"	16	Skeniah.
J. S. Rhoads	"	17	Upper Young Cane
James Rhoads	"	10	Skeniah.
Joseph Danes	"	60	Morganton.
W. H. Fortner	"	5	Fair Play.
David Sheel	"	23	Blue Ridge.
T. J. Davis	"	9	Mineral Bluff.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
W. G. Thomas	Farmer	40	Sugar Creek.
G. W. McAfee	Merchant	7	Blue Ridge, Ga.
R. M. Wilson	Clerk	24	"
W. G. Owenby	Wholesale Gr	8	"
J. R. McKinney	P. M. & Merchant	25	Coldwell.
John Owenby	Cleark	35	Mineral Bluff.
V. A. Trammell	Merchant & Timberman	35	Blue Ridge.
C. I. Reynolds	Farmer	49	Morganton.
F. G. Dunlon	Hard. Merchant	5	Blue Ridge.
A. S. J. Hall	Attorney at Law	16	"
W. O. Davenport	Merchant	33	Hemptown.
G. A. Rhodes	Farmer	25	Mineral Bluff.
R. F. Smith	Teleg'ph operator	1	"
Robt. Hampton	lerk	7	"
W. Y. Gilnom	Physician	28	"
T. G. Hall	Farmer	39	Blue Ridge.
J. M. Daves	M. D.	45	"
H. P. Mulkey	Cash. No. Ga. Trust Co.	10	"
W. A. Anderson	ewing Mach. Agt.	8	"
J. A. Jones	Sheep Dealer	8	"
H. C. Thomas	Farmer	25	Shugar Creek.
J. H. Young	"	26	"
J. D. Young	"	45	"
J. B. Garrett	D. D. S.	20	Morganton.
W. C. Boling	Merchant	19	Toccoa.
J. A. Green	Farmer	50	"
Thos. Couther		50	"

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
W. L. G. Odom	Farmer	20	Sugar Creek.
Giles Green	"	52	" "
J. A. Odom	"	20	" "
W. A. Odom	"	20	" "
M. D. Stuart	"	27	" "
Wm. M. Cox	"	46	" "
S. H. Crawford	"	46	" "

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. Y. Allen	Farmer	10	Toccoa.
M. L. Conley	"	28	"
E. S. Beever	"	27	Noontootla.
Sam Young	"	50	Sugar Creek.
A. L. Morten	"	12	"
W. D. Cock	City Marshal	35	Toccoa.
T. P. Bryant	Farmer	52	"
M. B. Williamson	"	52	Coldwell.
A. L. Jane	Shoemaker	10	Toccoa.
R. C. Arp	Farmer	52	Sugar Creek.
J. L. Stuart	"	30	Toccoa.
Dave Dickey	"	40	Morganton.
J. W. Thomas	"	52	Toccoa.
F. M. Galloring	"	28	"
J. W. Bryant	"	39	"
J. S. Bryant	"	36	"
Wm. Brinkle	"	15	"
W. D. Smith	"	62	Morganton.
T. T. Farr	M. D		
B. F. Weeks	Farmer	40	Coldwell.
John Vestel	" & L'vr'n.	44	Toccoa.
B. F. Davenport	"	50	"
J. E. Cochran	"	45	Sugar Creek.
Henry Davenport	"	47	Toccoa.
J. R. Chastain	"	50	Morganton.
W. L. Rogers	"	37	"
D. O. Denis	"	16	"
J. W. Weston	"	50	Near Cherry Log
John B. Tipton	"	40	Toccoa.

Sworn to and subscribed before me, this 15th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during

the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
M. J. Clontz.	Farmer	30	Morganton.
W. G. Richards	"	40	"
J. J. Cordell.....	"	40	Mineral Bluff.
L. C. Allen.....	"	54	Morganton.
N. J. Addington..	"	40	"

Sworn to and subscribed before me, this 18th day of September, 1906.

G. D. NIXON,

J. P. and Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

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NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
C. Y. Dillingham	Farmer	23	Hemp.
W. M. Ledbetter	"	26	"
W. P. Odom	"	21	"
R. L. Weam	"	35	"
B. J. Roberts	"	46	"
his J. P. + Pope mark.	"	4	"
D. Y. Nichols	"	25	"
J. W. Mashburn	"	27	"
W. S. Mashburn	"	40	"

Sworn to and subscribed before me, this 17th day of September, 1906.

JAS. A. BRUCE, J. P.
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of year set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak , have been practically exterminated.

The destruction of vegetation has been most marked during the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past

six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. H. Sisson	Farmer	33	Toccoa
O. P. Sisson	"	30	"
J. M. Sisson	"	25	"
Jas. Bruce	"	45	Hemptown
J. L. Farmer	"	50	Morgan
F. E. Aaron	"	20	Morganton
E. H. Kindall	"	17	Noontootla
Larkin Gesman	"	69	Morganton
G. W. Tarpley	"	43	"
Fidela Weaver	"	63	Toccoa
W. J. Ballew	"	10	Morganton
E. W. Grizzel	"	15	"
J. M. Hackney	"	10	Toccoa
J. G. Allen	"	54	Skeniah
G. L. Godfrey	"	48	Sugar Creek
J. P. Murphy	"	3	Toccoa
M. P. Strogan	"	25	"
R. T. Stiles	Merchant	4	"
J. W. Burty	Farmer	15	"
H. F. Kincaid	"	19	"
J. A. Cornett	"	31	"
G. A. Curtis	"	28	Sugar Creek
W. M. Bailey	"	51	Mabert
C. L. McClure	"	30	Toccoa
L. G. Green	"	22	"
J. A. Martin	"	5	Morganton

Sworn to and subscribed before me, this 18th day of September, 1906.

J. R. CHASTAIN,
U. S. Commissioner Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of year set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak , have been practically exterminated.

The destruction of vegetation has been most marked during

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the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

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NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
Samuel Higdon.	Farming	30	Caldwell.
W. T. Higdon	"	38	"
Mary Hice..	"	31	"

Sworn to and subscribed before me, this 19th day of September, 1906.

M. B. WILLIAMSON,
J. P. and Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA,—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty years, deponent's residence being in the..... district of said county. Deponent is engaged in the business of farmer, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enter-

prise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occathree years been a matter of repeated occurrence. This vapor sionally occurs during the year. It has within the past two or has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been aban-

doned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponents' observation: That deponents live in the Morganton district of said county; that deponents have suffered great loss to valuable timber, which they have not allowed to be cut. Now it is dying, so as to cause great loss. Deponents had a heap of peaches and apples which is about a total loss. The trees are dying and will be a great loss; also beans, cabbage and all vegetables is either lost or in a decaying condition. The whole vegetable and cereal crop is so badly hurt this year that it looks like the farmers and timber-owners will be ruined if things go on the way they are now.

GEORGE N. ORTON,
HANSOM ORTON.

Sworn to and subscribed before me, this 15th day of September, 1906.

B. M. TILLEY,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for thirty-one years, deponent's residence being in the 113th district of said county. Deponent is engaged in the business of farming and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge

of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have

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been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was June 26, 27 and 28, 1906, and has at various times since been noticeable, and done damage, and on September 5, 1906, it killed bean vines and other vegetation on deponent's farm.

W. H. Dunn.

Sworn to and subscribed before me, this 18th day of September, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for thirty-three years, deponent's residence being in the Hemptown district of said county. Deponent is engaged in the business of merchandise, etc., and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have

been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows:

Deponent is a merchant at Hemp, Fannin county, Georgia, located about twenty miles from defendants' furnaces. At different times during July and August, 1906, the smoke and fumes from said furnaces located at McCay and Isabella, Tennessee, came down on the premises of deponent, and on the watermelon, cucumber, tomato vines and roses growing on said premises in great volume and strength, and by the days following each visitation the same were scorched and blistered as though bitten by frost. The fodder on the growing corn was affected as follows: The blades have rotted to the stem. Since the erection of the high stack by The Tennessee Copper Company the damage done by the smoke and fumes from said furnaces in deponent's neighborhood has been much greater than ever before.

W. O. Davenport.

Sworn to and subscribed before me, this 14th day of September, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty-two years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge

of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been aban-

doned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows:

Deponent owns a farm, which he cultivates, in said county and district, about seven miles from the furnaces of the said defendants. At various times during the spring and summer of 1906, the smoke and fumes from said furnaces, in unusual volume and strength, were observed to come down on and envelop the said farm and timber and crops growing thereon. When the same had been lifted and blown away by the winds deponent noticed very soon thereafter that the bean, pea and tomato vines and the tops of Irish potatoes had been scorched and blistered. They turned white and died as when frostbitten. The leaves on deponent's apple and peach trees were likewise affected. The leaves fell off and left the limbs bare. The fruit soon became dwarfed and fell off. The timber and all crops and vegetation has been injured in the same manner. The damage done to all kinds of vegetation in his neighborhood, and farther away from the furnaces of defendants, have been much more affected by said fumes than during any previous year. The erection of the high stack by the defendant, The Tennessee Copper Company, has increased the carrying power of said fumes, and while it has to some extent relieved the situation in and around the immediate vicinity of said furnaces, it has very much aggravated the condition of things for many miles farther away, which has produced great damage to timber and the destruction of crops in territory not heretofore injuriously affected.

BAILEY GODFREY.

Sworn to and subscribed before me, this 18th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty-two years, deponent's residence being in the Morganton district of said county. Deponent is engaged in the business of farming and market gardening, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut

oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows:

Deponent is the joint owner with his brother, Joseph Wilson, of a farm located in said district and county, one mile north of the town of Morganton, and about thirteen miles southeast of defendants' furnaces. Deponent and his said brother, for more than twenty years, have been raising watermelons in large quantities for sale, and for the last five years have been cultivating market garden truck on their said farm. They conducted their said business of raising watermelons and market gardening with considerable profit until within the last two or three years just passed. Some three years ago the smoke and fumes from defendants' said furnaces began to make their appearance on said farm, and more or less injuring their crops. Since the erection of the high stack or chimney by The Tennessee Copper Company at McCay, Tennessee, the smoke and fumes from said furnaces have bee nmuch more noticeable, and in very much greater strength and volume than during any previous year, and the damage done to their crops on said farm has been very largely increased. At various times since the erection of said stack this past spring and during the summer of 1906 these fumes have come down on their said watermelons and growing market truck, and soon after it lifted the melon vines, tomato vines and bean vines and other growing vegetables were scorched and blistered and presented the appearance of having been frostbitten. The watermelon vines were entirely destroyed, and the crop this year was a total failure. The tomatoes were retarded in growth, the fruit was small and dwarfed and almost unfit for market at any price. If the smoke and fumes from defendants' furnaces are allowed

to continue to blow over upon and to envelop deponent's farm and vegetation as during the past spring and summer, it will become impossible to grow market truck for sale, or even home use, and deponent and his said brother will be compelled to abandon their market garden business.

T. J. WILSON.

Sworn to and subscribed before me, this 19th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for ten years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of Farmer and is a property-holder in said county.

Deponent is familiar with farming conditions, timber inter-

ests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as

a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for nonpayment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: June 20-25, during which time said smoke was abundantly present, and after same lifted all garden vegetables, including beans, peas, cabbage and the like, was utterly destroyed. In addition, deponent's fruit was ruined. Said smoke has enveloped deponent's farm on other occasions, but the damage was greatest at said time, probably for the reason that practically all garden truck was killed at the time hereinbefore specified.

JOS. CARROLL.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty years, deponent's residence being in the Fallard district of said county. Deponent is engaged in the business of Farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enter-

prise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for nonpayment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: About June 29th the smoke appeared in great volume and strength, and immediately thereafter deponent's garden vegetables shriveled and died. His beans, potatoes, tomatoes and other vegetables were utterly ruined. Fruit was destroyed and even the grass in deponent's meadow was ruined. The smoke has appeared other times, but the greatest damage was apparent after it lifted, June 29th.

CHAS. R. PARKS.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for twelve years, deponent's residence being in the Morganton district of said county. Deponent is engaged in the business of Farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge

of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have

been abandoned to wild lands or allowed forfeited for nonpayment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: June 23, 1906, when the smoke appeared in great strength, and immediately thereafter the beans, tomatoes, potatoes, watermelons and peas shriveled and died.

On August 11th the smoke again came down in heavy volume, enveloping deponent's place, killing deponent's tomatoes, which had been replanted, ruining his corn and utterly ruining his orchard. Not only was his fruit crop completely killed, but his fruit trees were almost totally destroyed.

The smoke has come down on other occasions, but was strongest on said date.

D. O. DAVIS.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1905

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physic-

ally identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

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These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed by deponent in localities much nearer to defendants' plant. In

sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE YEARS.	DISTRICT.
W. B. Cole	Farmer	50	50
J. W. Cole	"	42	42
D. M. Fisher	"	25	25

Sworn to and subscribed before me, this 10th day of September, 1906.

JOHN F. MCNELLY,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by

the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during

the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

Greater damage has been wrought to farms and lands, to timber, orchards, crops and gardens during the past spring and summer (1906) than was accomplished in any three years previous; in fact, more damage per month was apparent for the months of June, July and August, 1906, than was noticeable per year prior to the present time. The injury has also increased each month, that in August being in excess of July, and July greater than June, 1906.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE, YEARS.	DISTRICT.
John E. Davis	Farmer	50	Toccoa.
C. D. Davenport	"	30	"
C. J Trammell	Sawmill man	40	"
L. S. Sluder	Farmer	60	"
G. W. Aaron	"	50	"
L. C. Smith	"	50	Morganton.
W. E. Rogers	"	5	"
John W. Anderson	"	52	Hot House.
A. B. Dickey	"	62	" "
S. H. Green	"	40	Toccoa.
Stephen Griffin	"	50	"
J. Y. Curtis	"	35	"
R. L. Phillips	"	36	"
J. H. Griffin	"	28	"
F. E. Green	"	27	"
Thomas A Brown	Attorney	45	"

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character

of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed

by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

The injury during the months of June, July and August has been enormous. In many localities as much injury has

been done within the past few months as was previously noticed during the entire time of defendants' operations.

In some localities previously protected by mountain barriers, or otherwise shielded from the fumes, as much damage has been experienced during the present spring and summer as was felt in unprotected communities during the whole time of defendants' operations.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE YEARS.	DISTRICT.
A. J. Dillard	Farmer	38	Hot House.
J. M. Bulk	"	7	" "
H. G. Coler	"	25	" "
W. K. Dillard	"	49	" "
J. P. Henson	"	16	" "
N. A. Carter	"		Cherokee Co. N. C.
E. L. Carter	"		" " "
T. R. Carter	"		" " "
A. E. Clour	"		" " "
E. B. Carter	"		" " "
Frank Baudy	"		" " "
Martin Tetherow	"		" " "
W. H. White	"	20	Hot House.

Sworn to and subscribed before me, this 19th day of September, 1906.

FRED FORRESTER,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

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Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character

of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

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These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed

by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

Greater damage has been wrought to farms and lands, to timber, orchards, crops and gardens during the past spring

and summer (1906) than was accomplished in any three years previous; in fact, more damage per month was apparent for the months of June, July and August, of 1906, than was noticeable per year prior to this time. The injury is also increasing each month, that in August being in excess of July, and July greater than June, 1906.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. R. Chastain	Farmer	50	Morganton.
R. C. Miller	"	4	Toccoa.
M. F. Davenport	"	57	"
W. E. C. Curtis	"	45	Sugar Creek.
Jos. Carroll	"	10	"
W. S. Watkin	"	45	Toccoa.
J. F. Lechford	"	39	"
Wm. Robinson	"	45	"
A. J. Warren	"	35	Morganton.
J. D. Land	"	45	Toccoa.
D. O. Davis	"	12	Morganton.
J. J. Carter	"	40	"
W. S. Watkins, Jr	"	37	"
R. N. Cook	"	19	"
J. E. Findley	Dept. Sheriff	47	Toccoa.
John Miller	Farmer	11	"
J. H. Davis	"	40	"
William Butt	Attorney	25	"
D. R. Ballew	Farmer	10	Sugar Creek.
A. L. Jones	"	29	Toccoa.
Jacob Weaver	"	70	"
J. M. C. Potts	"	53	Colwell.
J. W. Watkin	"	30	"
W. A. Miller	"	27	"
J. M. Hall	"	50	Toccoa.
Giles Green	"	53	"
J. Y. Allen	"	10	"
J. C. Cook	"	19	Morganton.
W. A. Wilson	J. P.	46	Tallad.
C. R. Parks	Farmer	40	40
John Merrell	"	55	54
E. D. Patton	"	45	45
W. B. Legg	"	50	50

Sworn to and subscribed before me, this 28th day of August, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character

of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed

by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed.. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

Greater damage has been wrought to farms and lands, to timber, orchards, crops and gardens during the past spring and

summer (1906) than was accomplished in any three years previous—in fact more damage per month was apparent for the months of June, July and August of 1906 than was noticeable per year prior to this time. The injury is also increasing each month, that in August being in excess of July, and July greater than June, 1906.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
John Wilson	Farmer	45	1308.
W. E. Chance	"	7	1308.
D. J. Chance	"	7	1308.

Sworn to and subscribed before me, this 1st day of September, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendants' furnaces. Each of deponents has by reason of his residence, and the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil and the character thereof; the streams, the timber, the various species of trees which prevail in said forests; the general values of the land for agricultural and other purposes, and the general values of the trees for lumber and timber purposes.

Each of deponents says that the land when cleared of the trees, and particularly the land which is irrigated by streams, in his particular district is fertile, readily cultivated and produce in paying quantities corn, wheat and other crops. The soil is especially adapted for the raisin gof what is termed market truck.

Much of said county is devoted to agricultural purposes, and heretofore throughout said section to crops per year have been raised, the winter-growing crops consisting largely of wheat, rye, barley and small grain, and the garden or market truck of turnips, mustard, collards and the like. The farms have heretofore, and prior to the appearance of the hereinafter mentioned fumes, as a rule, been profitable to their owners, and have been cultivated from year to year, and were generally in good condition.

The timber interests in said section of the State are exceedingly large and valuable. The timber, either standing or cut, possesses a ready market. Many fine species of trees are to be found, such as the white pine, spruce, yellow pine, hemlock, hickory, white oak, chestnut, poplar, and a large number of other varieties, the white pine, spruce, yellow pine and other trees of the conifer or evergreen variety being in leaf throughout the entire winter.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears

to the eye to be a gray haze or vapor. It is perceptible to the eye and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents have ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which has ever, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle towards the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during this summer. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

During the spring and summer of 1906, the smoke and fumes have been more continuously present than at any time before, have appeared and remained present not only more constantly, but in greater volume and strength. In addition, the vapor was present at hours not theretofore customary, and remained for much longer periods. Prior to said spring and summer of 1906 the fumes were usually noticeable only at night, late in the afternoon, or in the early morning, but during the past few months same have been present at times during practically all hours of the day and night.

Prior to said period of time the timber in the district in which deponents lives was healthy, sound, in good condition, and there was no appearance of any cause generally affecting injuriously either the timber as a whole, or operating upon any particular species. Trees would occasionally here and there die from old age and random fires, lightning, or other individual causes. These were, however, normal occurences, and the great body and bulk of the timber was in a normal, healthful, thriving condition.

Within the period of time mentioned, and since the fumes and vapors emitted by the defendants' furnaces have been noticed in the district in which each deponent resides, the general condition of the forests have changed—the timber is dying rapidly. It is no longer in a healthy condition. Much of it is dead. The percentage of dead trees to live trees has passed from a natural, normal per cent. to one which is entirely unnatural and abnormal. Some of the species have become practically extinct, such as the chestnut oak and hickory. It is a fact that in the district in which each deponent lives these two varieties of trees have been to a large extent exterminated. These trees wither, cast their leaves in the summer long prior to the fall, and die almost immediately. At the present rate of mortality of these two species it is a question of but a short time until they are absolutely exterminated in deponents' respective districts. In some of the districts of said county these trees have already become extinct.

Many other varieties of trees are showing similar effects, and are dying in substantially the same way, though requiring a greater length of time. Among these may be found the white pine, hemlock, white oak, the post- oak, and other varieties. Enormous quantities of these varieties are now in process of dying, the leaves wither and fall prior to the natural order of things. The leaves upon the white pine turn yellow. The trees disclose to the eye at a glance that they are in process of death. Trees showing these outward signs in the late summer often do not put out the following spring. The trees thus affected will not put out at the top. This, the most exposed part of the tree, is more quickly and readily affected than the under part, which is to a greater or less extent, protected by the surrounding undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other cause from which the results indicated could spring than that of the haze or mist above mentioned. There is no other haze, mist, vapor or fumes in said county from any other cause. There has been during said period of time no peculiar or unusual climatic changes. There has been nothing unusual in any other physical or natural condition of affairs. There has been neither ususual drouth nor excessive rainfall.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years

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in his respective district. He has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of natural life.

Deponents state that upon repeated occasions the haze or vapor mentioned above would settle upon the earth and come in physical contact with the crops that have been planted. In a single night after these fumes thus described would touch the vegetation it would be either entirely destroyed or seriously injured. It would wither and turn yellow summer-grown crops or vegetables as if a heavy frost had fallen upon them, though no frost had touched them, and utterly destroy the small grain and other winter-growing crops.

The same effect as that above described would be noticed upon the various orchards after one or more visitations, either the fruit being entirely destroyed or the product being small, dwarfed fruit entirely unfit for use.

The destruction of timber, orchards, crops, gardens and vegetation generally throughout deponents' section has been much greater during the spring and summer of 1906, than during the same period of any previous years, and the territory in which said destruction was apparent, has largely increased. The forests are being ruined, and under said conditions will soon be wholly destroyed.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE, YEARS.	DISTRICT.
I. G. Gee	Farmer	36	Noontootla.
P. G. Long	Farmer	30	"
E. C. Tilley	Farmer	30	"
W. I. Tilley	"	35	"
Dawson Stanley	"	25	"
G W. Smith	Public	21	"
A. G. Kindall	Farming	33	"
J. R. Bradley.	Farming	56	Morganton.
Alfred Farmer	Farming	30	"
E. H. Stanley	Farming	49	Noontootla.
S. H. Garland	Farming	21	"
E. W. Thurman		25	"
W. A. Thurman	Farming	30	"
W. G. Stanley		35	"

Sworn to and subscribed before me, this 10th day of September, 1906.

BENJ. M. TILLEY,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Each of deponents is familiar with the location of defendants' furnaces. Each of deponents has by reason of his residence, and the particular occupation in which he is now engaged become familiar with the physical situation and characteristics of the larger part of said county. He is acquainted with the soil, and the character thereof; the streams, the timber, the various species of trees which prevail in said forests; the general values of the land for agricultural and other purposes, and the general values of the trees for lumber and timber purposes.

Each of deponents says that the land when cleared of the trees, and particularly the land which is irrigated by streams, in his particular district is fertile, readily cultivated and pro-

duces in paying quantities corn, wheat and other crops. The soils is specially adapted for the raising of what is termed market truck.

Much of said county is devoted to agricultural purposes, and heretofore throughout said section to crops per year have been raised, the winter-growing crops consisting largely of wheat, rye, barley and small grain, and the garden or market truck of turnips, mustard, collards and the like. The farms have heretofore, and prior to the appearance of the hereinafter mentioned fumes, as a rule, been profitable to their owners, and have been cultivated from year to year, and were generally in good condition.

The timber interests in said section of the State are exceedingly large and valuable. The timber, either standing or cut, possesses a ready market. Many fine species of trees are to be found, such as the white pine, spruce, yellow pine, hemlock, hickory, white oak, chestnut, poplar, and a large number of other varieties, the white pine, spruce, yellow pine and other trees of the conifer or evergreen variety being in leaf throughout the entire winter.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eye and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponents have ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which has ever, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle towards the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence during each month. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

In the winter the smoke and vapor has heretofore been even more constantly present than during the summer previous, and clings more closely to the earth. This is especially true upon rainy, cloudy and foggy days, and when the atmosphere is dense, but the presence of the fumes and vapor is by no means confined to this character of weather.

During the spring and summer of 1906, the smoke and fumes have been more continuously present than at any time before, have appeared and remained present not only more constantly, but in greater volume and strength. In addition, the vapor was present at hours not theretofore customary, and remained for much longer periods. Prior to said spring and summer of 1906 the fumes were usually noticeable only at night, late in the afternoon, or in the early morning, but during the past few months same have been present at times during practically all hours of the day and night.

Prior to said period of time the timber in the district in which deponents lives was healthy, sound, in good condition, and there was no appearance of any cause generally affecting injuriously either the timber as a whole, or operating upon any particular species. Trees would occasionally here and there die from old age and random fires, lightning, or other individual causes. These were, however, normal occurences, and the great body and bulk of the timber was in a normal, healthful, thriving condition.

Within the period of time mentioned, and since the fumes and vapors emitted by the defendants' furnaces have been noticed in the district in which each deponent resides, the general condition of the forests have changed—the timber is dying rapidly. It is no longer in a healthy condition. Much of it is dead. The percentage of dead trees to live trees has passed from a natural, normal per cent. to one which is entirely unnatural and abnormal. Some of the species have become practically extinct, such as the chestnut oak and hickory. It is a fact that in the district in which each deponent lives these two varieties of trees have been to a large extent exterminated. These trees wither, cast their leaves in the summer long prior

to the fall, and die almost immediately. At the present rate of mortality of these two species it is a question of but a short time until they are absolutely exterminated in deponents' respective districts. In some of the districts of said county these trees have already become extinct.

Many other varieties of trees are showing similar effects, and are dying in substantially the same way, though requiring a greater length of time. Among these may be found the white pine, hemlock, white oak, the post-oak, and other varieties. Enormous quantities of these varieties are now in process of dying, the leaves wither and fall prior to the natural order of things. The leaves upon the white pine turn yellow. The trees disclose to the eye at a glance that they are in process of death. Trees showing these outward signs in the late summer often do not put out the following spring. The trees thus affected will not put out at the top. This, the most exposed part of the tree, is more quickly and readily affected than the under part, which is to a greater or less extent, protected by the surrounding trees and undergrowth. The trees die from the top toward the bottom.

Deponents do not know of any other cause from which the results indicated could spring than that of the haze or mist above mentioned. There is no other haze, mist, vapor or fumes in said county from any other cause. There has been during said period of time no peculiar or unusual climatic changes. There has been nothing unusual in any other physical or natural condition of affairs. There has been neither unusual drouth nor excessive rainfall.

Each of deponents has been ordinarily familiar with the usual insects and bugs which have been found for many years in his respective district. He has not within the past two or three years noticed or observed anything unusual either in number or variety of this form of natural life.

Deponents state that upon repeated occasions the haze or vapor mentioned above would settle upon the earth and come in physical contact with the crops that have been planted. In a single night after these fumes thus described would touch the vegetation it would be either entirely destroyed or seriously injured. It would wither and turn yellow summer-grown crops or vegetables as if a heavy frost had fallen upon them, though no frost had touched them, and utterly destroy the small grain and other winter-growing crops.

The same effect as that above described would be noticed upon the various orchards after one or more visitations, either the fruit being entirely destroyed or the product being small, dwarfed fruit entirely unfit for use.

Deponents state that in some of the districts of said county a number of farms have been abandoned because of the settling of these sulphur fumes from the defendants' furnaces upon the farm. Prior to the last few years none of these farms had, to deponents' knowledge, been afflicted in the way described. Said farms, prior to said times, had been cultivated in the usual, ordinary way, and produced the usual, ordinary results.

The destruction of timber, orchards, crops, gardens and vegetation generally throughout deponents' section has been much greater during the spring and summer of 1906 than during the same period of any previous years, and the territory in which said destruction was apparent has largely increased. Many farms throughout the locality in which this destruction is wrought have been abandoned as such, and deponents, from their knowledge of farming, state that no farm can be successful when subject to the conditions hereinbefore specified. The forests are likewise being ruined, and under said conditions will soon be wholly destroyed. Particularly is this true of the months of May, June, July and August of this summer. The damage during these four months being many times greater than during any preceding year, whole mountain sides being killed in a few days that put out in healthy foliage in the spring.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE, YEARS.	DISTRICT.
J. J. Carter	Farmer	40	Morganton, Ga.
D. O. Davis	"	10	" "

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. W. Davis	Farmer	30	Noontootla.
R. W. Woody	"	32	"
Larkin German	"	52	Toccoa.
W. R. Connelly	"	38	"
A. C. Grifflth	"	52	Noontootla.
W. W. Doaley	"	3	Sugar Creek.
Mike Merrel	"	22	"
A. Wilhurt	"	40	"
N. M. Green	"	37	Toccoa.
James B. Godfrey	"	33	Sugar Creek.
M. A. Green	"	52	Toccoa.

Sworn to and subscribed before me, this 31st day of August, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Murray.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous

copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist of vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

Particularly has this been the case during the spring and summer of this year, while heretofore, viz.: prior to May, 1906, these fumes were rarely ever noticed in deponent's neighborhood except late at night or early in the morning, but since this time these fumes have been present at times all hours of the day or night whenever the wind was from the direction of defendants' mines. Their appearance, too, has been marked more frequently and the fumes have been present in far greater strength and density than ever observed before. While before the spring and summer above mentioned, the destruction to timber and vegetation seemed to be accomplished gradually, since May of this year the destruction wrought has been much more signal than ever before known. Whenever said fumes have been noticed in unusual strength and volume in each of deponent's neighborhoods immediately thereafter, viz., in the next three or four days the timber and vegetation that had been enveloped in said fumes and exposed thereto would immediate-

ly show the evil effects of the same. The leaves on the timber would turn brown, shrivel up and fall from the trees. The corn leaves would be burnt and shrivel. The leaves on the peas and beans would likewise be wilted, and even the ragweeds and other hardy plants would wilt and perish as if the whole section had been visited by a severe frost.

Since the above spring and summer the fumes seem to have been given an increased carrying power, and seemed to have been condensed and concentrated and made far more deadly. They seem to have mounted higher altitude and been able to pass barriers of mountains and hills that hithertofore seemed to protect certain sections where no damage had heretofore appeared. Since the above time referred to these barriers have been passed and new sections have been blighted and devastated that have never before been visited. Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year have been raised throughout said section. The winter-growing crops consisting largely of wheat, rye, and small grain generally, and market or garden truck, of turnips, collards, mustards and greens and like winter-growing vegetables. The farms prior to the appearance of the fumes above mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia where deponent resides are exceedingly large and valuable. Among the species of trees found are white pine, yellow pine, hemlock, white and chestnut oak, and other varieties. The white pine, yellow pine, hemlock, and other conifers, or trees of the evergreen varieties being in leaf throughout the winter. Some species of timber in the forest, such as hickory and chestnut oak have been almost exterminated, and fruit trees throughout considerable areas are badly damaged. The destruction to timber, crops and orchards has been far greater during the spring and summer of 1906, and the territory showing destruction vastly widened and increased over anything ever before known. Each deponent knows of his own knowledge that since May of this year that the destruction to timber and vegetation has been multiplied many times over anything ever before experienced, and said destruction has been wrought and accomplished in much less time. Should the destruction of timber, orchards and crops continue in the future as it has since

May of this year, the complete and utter destruction of all timber and orchards is near at hand, as the destruction is already widespread.

NAME.	NO. YEARS IN DISTRICT	OCCUPATION.	DIST.	SECT.
C. L. Terry	60	Farmer	26	2
S. A. Gregory	40	"	26	2
J. P. Gregory	40	"	26	12
J. B. Gregory	32	"	26	12
W. J. Peeples	34	"	26	12
D. I. Isenhouer	44	"	26	12
G. H. Bates	45	"	26	12
Sam Hanson	29	"	26	12
W. P. Spears	30	"	26	12
W. A. Plemons	37	"	26	12
James G. Loughridge	61	"	26	12
Walter Harris	5	"	26	12
John H Loughridge	55	"	26	12
Jacob H. Plemons	34	"	26	12
D F Gossag	43	"	26	12
N. B. Bates	52	"	26	12
John Johnson	30	"	26	12
J. L. McEntire	50	"	26	12
W. D. Gregory	40	"	26	12

Sworn to and subscribed before me, this 18th day of September, 1906.

E. L. BATES, J. P.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Murray.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during

the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE, YEARS.	DISTRICT.
Jas. Rice	Farmer	25	1506
J. B. Thompson	"	40	"
David White	"	30	"
F. M. Bray	"	33	"
W. H. Pellam	Millman	28	"
A. S. Rice	Farming	36	"
O. M. Klenets	"	19	"
L. L. Tateet	"	42	"

Sworn to and subscribed before me, this 17th day of September, 1906.

A. H. GREEN,
J. P. and Notary Public, Murray county, Georgia.

In the Supreme Court of the United States

October Term, 1905

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Murray.

Personally appeared the undersigned who, being duly sworn, in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for the number of years set opposite his name, and is engaged in the business there specified.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor, which possesses a peculiar odor, and is foul and offensive.

Since the appearance of said fumes the conditions of the orchards, forests and farms throughout deponent's neighborhood have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of vegetation has been most marked during

the spring and summer of 1906. In fact, the greatest injury to forests and vegetation has occurred within about the past six weeks. In many localities when the foliage seemed green and reasonably healthy in May, June, and even July, the leaves are now brown and seared, and frequently have wholly fallen from the trees and cover the ground as is usually the case in the late fall and early winter—after several frosts have fallen. These conditions are found in many localities previously immune from the injury.

The death of timber and vegetation has been much more speedily accomplished during the past few months than ever before. Formerly the timber injury seemed gradual, the leaves, after the presence of the fumes a few times, yellowing and later falling mainly from the tree-tops and upper branches of the timber. This summer, however, immediately after a single visit of the fumes in the unusual strength, noticeable for the first time this spring and summer, the leaves would look scalded and blistered, would turn brown, and often wholly fall from the trees. Other vegetation, crops, gardens, and even weeds, show similar effects. Much timber is now utterly denuded of leaves, and even the underbrush shows great damage.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
John Carter	Farmer	50	1506
John Baxter	"	45	"
John Dixon	"	50	"
C. P. Carr	"	34	"
O. B. Keener	"	22	"
P. G. Pateet	"	35	"
H. Lankford	"	40	"
Wm. Millage	"	40	"
Chas. Tasker	Lumberman	13	1265

Sworn to and subscribed before me, this 19th day of September, 1906.

A. H. GREEN,
J. P. and Notary Public, Murray county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for ten years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of farmer, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: On June 29th, when the smoke in great strength and volume appeared, and immediately thereafter deponent's crop of oats wited and died. His beans, potatoes and melons were killed. His grass and alfalfa were almost wholly destroyed.

There were other occasions where vegetation was killed, but the injury June 29th was more widespread than any other day.

D. R. BALLEW.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty-one years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of Farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities

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of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was on July 4th, when the smoke appeared in great volume. Immediately after the smoke lifted off the bean vines and melon vines were scorched and blistered, nipped down, the young corn and the potatoes and cabbage were killed. Even the leaves upon the trees were shriveled and burned.

Many other occasions have occurred during the past summer, but the destruction was infinitely more widespread after the appearance of said fumes, July 4, 1906.

W. E. C. CURTIS.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty years, deponent's residence being in the Morganton district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was August 12th, when a heavy vapor or fog of said smoke enveloped deponent's farm, and immediately thereafter the beans were killed and cabbage and fruit ruined. Corn was injured, and even the weeds looked as though they had been frost-bitten. Deponent's children, five in number, suffered from nose-bleed shortly after the appearance of said fumes.

Much timber showed injury immediately after said smoke lifted. Damage has been apparent after other appearance, but the damage was not so large as at said time.

W. S. WATKINS.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for thirty years, deponent's residence being in the Colwell district of said county. Deponent is engaged in the business of farmer and is a property holder of said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was at deponent's farm in Gilmer county, four miles east of Cherry Log, on the night of August 11th and day following, when said smoke appeared in great density and strength. Immediately afterwards deponent's beans wilted and died, as did deponent's tomatoes and cabbage, and his fruit shriveled and failed.

The smoke has appeared on several other occasions, after which timber and vegetation showed injury. The injury is many times greater during the present year than ever before.

W. S. WALKINS.

Personally appeared J. W. Watkins who, being duly sworn, says that he has read the foregoing affidavit and knows same to be true Deponent is a neighbor of W. S. Walkins, and experienced practically the same injury on the date and in the manner described in the foregoing affidavit.

J. W. WATKINS.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for eleven years, deponent's residence being in the.... district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was on August 11th and 12th, when the smoke was present in unusual strength, and immediately thereafter potatoes were killed and blistered, and corn seriously injured. In fact, deponent's garden truck was almost entirely destroyed.

Other injuries at different times have occurred, but none so great as on the dates specified.

W. E. MILLER.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty-five years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the f[illegible]aces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: The third Sunday in July, when the smoke came down very strong and dense, and when same lifted, cabbage, beans, tomatoes and potatoes looked scalded and wilted, and were well-nigh wholly destroyed.

In June considerable injury was done the corn, but the vegetation was not so badly injured as on first mentioned date. Other times, which deponent does not remember as to exact date, showed injury after the appearance of said smoke. On said Sunday, in addition to the garden truck, deponents fruit wilted and his orchard was badly injured.

WM. ROBINSON.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for four years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: This deponent lives in Toccoa district, where he is engaged in farming. During my vacation at above place the smoke and fumes settled repeatedly in my territory on June 28th, 29th and 30th of this it was particularly strong. On one of these days this deponent saw these fumes approaching before the wind from the defendants' mines. It looked like a rain cloud, but when it reached me I knew at once by the strong odor that it was the fumes. They were unusually strong. In the next few days my cabbages, tomatoes, peas, beans and the fruit trees showed the effects, leaves withering and browning up the same as if it was struck by heavy frost. The timber, too, all about me, showed the effects also, and all looked like one would expect to see it in late October or November, after the frosts had come. This deponent knows that the vegetation all about his section has suffered more from the fumes from the defendants' plants since May, this year, than ever before in the history of his section.

R. C. MILLER.

I am an adjoining neighbor of R. C. Miller, whose foregoing affidavit I have read, and of my own knowledge, know same to be true. Deponent suffered practically the same injury, and at the time and in the manner in said affidavit stated.

W. L. ROGERS.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for eleven years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk,

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: On or about July tenth, June eleventh and August twenty-fifth, the smoke came down in great volume, killing peas, beans and market truck generally, and orchards and timber.

JOHN MILLER.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty-three years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was during the latter part of June, when said smoke came down in volume and immediately after the potatoes and beans shriveled and died, and deponent's fodder was rotted. In addition, deponent's fruit, peaches and apples, wilted and were utterly ruined. On other days similar effects were noticeable, but not to quite as great an extent as at said time.

GILES GREEN.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty-seven years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it ket truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: This deponent is a farmer and resides seventh and second Fannin county, Ga., some seventeen miles from the defendants' mines. During June of this year, between the tenth and twentieth, this deponent saw the fumes from the defendants' mines repeatedly in his neighborhood, and one day during this time it was particularly strong, so as to cause me to cough and sort of strangle. Shortly after this time the leaves on my timber and my neighbors' timber turned brown and dropped off like frost had struck the trees. The leaves now would burn if fire were put to them. My corn, too, showed the evil effects and seemed to lose vitality and stopped growing. In July of this year we were visited again, along about the twenty-fifth, when the fumes were very strong. At this time it killed my tomato vines, and it ruined my peaches, causing the leaves to shrivel up and turn brown and drop off. The fumes have been much oftener in my section this spring and summer than ever before, and the destruction to vegetation and all timber has been much greater than ever before in the history of this section.

M. F. DAVENPORT.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Murray.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty-two years, deponent's residence being in the 10th district, 3d section, of said county. Deponent is engaged in the business of farmer, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have

been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation, he further states as follows:

He says he has observed the mist or gray fog during the summer season of the present year (1906). I have at several times smelled the sulphuric fumes, and have called other people's attention to the fact. I have had a number of trees in my orchards—apple and cherry—and the leaves become spotted and curl up and look as if they had been burned, and the appearance of the trees at the present time—a good many of them— being dead and dying. I also note at the present time that my shade trees are permanently losing their foliage, by the leaves looking as if they had been sprayed with some deadly acid, and I have also noticed that in the large quantity of timber in the forest east of where I now live, there is more dead timber than I have ever known in the last five years.

SAM'L L. CIMMIER.

Sworn to and subscribed before me, this 18th day of September, 1906.

E. L. BATES,

Justice of the Peace, Murray county, Georgia.

710

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 37 years, deponent's residence being in the 958th district of said county. Deponent is engaged in the business of Farming and Lumber, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the or-

chards, forest and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: Deponent, on August 10th last, was some four miles south of the town of Ellijay, near Eller Gap, when the smoke and fumes came down thick and heavy. It enveloped the surrounding country and timber so thick that one could scarcely see. It was strong, and had a very unpleasant odor. Within five days after this time timber that was green and healthy on August 10th, was badly damaged. The leaves all about showed brown and seared, and began falling from the trees.

This deponent is well acquainted in Gilmer county; knows the timber, the farms and the fruit interests. Deponent knows of his own knowledge that the damage to timber and all vegetation in this county has been multiplied many times since spring of 1906, over anything ever known in a like period in the history of this county since he has been a resident of it. Country that had never shown any damage before this year, is badly affected now, and should the evil be not arrested, and it increase as fast in the near future as it has since April of this year, the whole timber of the county will be absolutely ruined in a very short time, as injury is now widespread and increasing at an alarming rate.

J. T. SHARP.

Sworn to and subscribed before me, this 21st day of September, 1906.

W. T. PICKETT,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enter-

prise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been aban-

doned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: On 29th of June, 1906, when the smoke in great volume and strength was apparent. After the smoke lifted the beans, cabbage and other garden truck was scalded in appearance, and soon died. Even the weeds were killed down.

Many other days the smoke was quite strong, and afterward the vegetation not previously destroyed, showed damage and was frequently killed in spots.

Sworn to and subscribed before me this 28th of August, 1906.

J. J. CARTER.

J. R. CHASTAIN,

U. S. Commissioner, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enter-

prise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and sohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case durjng the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profiitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have diied, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been aban-

doned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was about June 10th, when heavy banks of smoke appeared, and after same disappeared deponent found his beans, cabbage and potatoes killed and his alfalfa patch of several acres utterly destroyed.

On June 20th the smoke again came down in strength and killed the remaining garden truck, including deponent's melons, and in addition, utterly destroyed the fruit on deponent's trees, the fruit appearing as though it had been cooked. At said time not only the fruit trees, but bodies of timber, acre after acre, was killed, the leaves dying, turning brown and falling off. The smoke appeared on other occasions killing remaining vegetation, but the greatest injury was at said dates.

J. M. C. PORTER.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 50 years, deponent's residence being in the Tococa district of said county. Deponent is engaged in the business of farmer, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was during the last week of June, at which time the smoke appeared in unusual volume, strength and density. After a couple of hours the vapor lifted, and immediately thereafter the corn turned yellow, as if frost-bitten, and the potatoes in deponent's patch began to shrivel up and wither, as if scalded. There were other instances, but at this said time the destruction was widespread. Not only were vegetables killed and injured, but even the weeds were killed down.

J. M. HALL.

Sworn to and subscribed before me, this 28th day of August, 1906.

J. R. CHASTAIN,
U. S. Commissioner, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 40 years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was about the middle of August, when a heavy smoke fell upon deponent's orchard, which was well filled with peaches. Within a short time the peaches were blistered and shriveled in appearance, and were wholly destroyed. Practically all were killed.

On September 1st and 2d the smoke enveloped deponent's garden, killing down deponent's beans, cabbage and tomatoes, and greatly damaged deponent's tobacco.

Deponent lives in the Blue Ridge district of Fannin county, south of the town of Blue Ridge, about two miles. Deponent's orchard was about a half-mile from his garden, which was killed after said fruit was ruined.

Deponent also has a field of ginseng, which also suffered severe injury both to the ginseny and also by destroying the shade over the patch.

JNO. B. TIPTON.

Sworn to and subscribed before me, this 13th day of September, 1906.

THOS. A. BROWN.
Notary Public, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physic-

ally identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been no-

ticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

Since the erection of the high stack, this spring, by the Tennessee Copper Company, the destruction to all vegetation and crops, fruit and farming has been multiplied many times

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more than ever before. Since May of 1906 the destruction has been multiplied in the territory of these deponents —

NAME.	OCCUPATION	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
John M. Hall	Farmer	42	8th and 2d District.
W. H. Mull		41	" " " "
John Farmer		38	
E. A. Hall		30	
Jacob Pope		1	
L. A. Gilliam		32	
G. J. Gregory	Farmer	35	" " " "
W. J. Bramlett	"	21	" " " "
John W. Thomas	"	36	" " " "
B. A. Collis	"	4	" " " "
Virgil Collis	"	4	" " " "
G. W. Foster	"	38	9th and 2d District.
T. B. Foster	"	21	" " " "
J. B. Ensley	"	24	" " " "
G. W. Patterson	"	54	" " " "
G. W. Phillips	Senator 41st Dist.; Farmer	43	" " " "
B. H. Phillips	Farmer	18	" " " "

Sworn to and subscribed before me, this 29th day of August, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, Sheriff thereof, and is a property-holder of said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enter-

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prise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been aban-

doned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was about the middle of July, when the smoke came down unusually strong, immediately after which the vegetables in deponents garden wilted down as though they had experienced a killing frost. In addition, deponent's corn and timber showed immediate injurious effect, the leaves on the trees shriveling and afterwards falling to the ground.

W. B. LOVINGOOD.

Sworn to and subscribed before me, this 13th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 25 years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was about three weeks ago, when the smoke enveloped deponent's farm, utterly ruining much of deponent's garden truck, biting down beans and tomatoes, and even killing the ragweeds. Most of the injury to timber has occurred during the past six weeks. Much timber that was green and in leaf but a short time ago, is now covered with dead leaves, or wholly denuded of leaves.

SAMUEL YOUNG.

Sworn to and subscribed before me, this 13th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has

observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occathree years been a matter of repeated occurrence. This vapor sionally occurs during the year. It has within the past two or has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has

been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. In fact, the smoke has been constant in deponent's locality. In June peas were killed down and several times the garden truck was killed back. In different localities on several occasions the leaves would look scalded after the fumes came down in a single night. Deponent lives in Glenn county, three and one-half miles from Cherry Log, in a northerly direction, deponent's farm being between Chery Log and Blue Ridge, Ga.

J. W. WISHON.

Sworn to and subscribed before me, this 13th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 29 years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and sohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profiitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation was September 2, 1906, when the smoke came down in great volume, utterly destroying deponent's garden truck, including over eight hundred cabbage, as well as all beans and tomatoes.

Deponent, in addition, had three October peach trees, and at said time the trees were heavy with fruit. Immediately after said smoke lifted the peaches shriveled and same were utterly ruined. Even the ragweeds and like vegetation failed to escape, the same being wilted, scalded and bitten down.

Deponent's farm is located about four miles on line south of the town of Blue Ridge.

W. R. STEWART.

Sworn to and subscribed before me, this 13th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty-nine years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farming and merchandising and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odór, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities

of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring summer.

Deponent further deposes and says that he owns a farm located in Sugar Creek district of said county, located about eight miles south of the defendants' copper plants, and about four miles north of the city of Blue Ridge, where deponent resides. For the last two or three years the sulphur fumes generated by defendants' smelters has been affecting injuriously the timber and vegetation in the community and surrounding country where his said farm is located. The fumes complained of have been noticeable in this section of the county for the above length of time, in fact, ever since the erection of defendants' furnaces. Since the erection of the high stack of the defendant, The Tennessee Copper Company, the smoke and fumes from said furnaces have been observable in the section in which his said farm is located in much greater volume and strength than at any time previous to this summer and past spring, and the damage inflicted to and on timber and vegetation is very much more widespread than ever before. The extent of the territory affected by said fumes has been very greatly extended since the erection of said high stack, and for many miles the leaves of the trees have been killed, and that, too, in communities and sections of the surrounding country not heretofore affected by the fumes and smoke and gases generated by defendants' furnaces. Deponent has traveled extensively during this summer over practically all of that section of Fannin county north of the line of the Knoxville division of the Louisville

& Nashville Railroad Company, with which section of the county deponent is, and has been, well acquainted for the last twenty-five years, and especially for the time said section of country has been injuriously affected by the fumes from defendants' furnaces, and deponent observes that the damages to timber and vegetation has been greatly increased during this summer and past spring. Much of said section which last year showed but little damage to timber and vegetation now appears to be very greatly injured and damaged by said fumes. The erection of said high stack has had the effect of carrying the destructive and deadly fumes from said furnaces to localities not heretofore affected, and has increased the damages to timber and vegetation in sections of the country which had been before damaged by said sulphur fumes. The leaves on the trees growing in all the section of the county above described have been scorched, blistered, browned and seared, and are now falling to the ground. The entire section presents the appearance of the country in the months of October and November after the falling of frost. The leaves on the trees in the city of Blue Ridge present the same appearance.

J. R. Willis.

Sworn to and subscribed before me, this 30th day of August, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-stated case, each deposes and says as follows:

He has been a resident of said county and State for the number of years set opposite his name. That he has resided in the particular district and section of said county which is likewise set opposite his name. Each of deponents is a property-owner in said county, and each is engaged in the business set opposite his name.

Deponent is familiar with the farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting enormous quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor which is foul and exceedingly offensive. It is different from anything which deponents has ever experienced.

The color, the haze, the effect upon the eyes, the character

of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, and mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponents have observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially whenever the air is dense or heavy with moisture. The odor, color, and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has, within the past two or three years, been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and said smoke and fumes present in much greater volume and strength than theretofore observed. In addition where previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day or night.

These fumes and vapors have not appeared with equal frequency or volume in all parts of the county of deponent's residence, the same apparently being governed, in a measure, by the topography of the country. Prior to the past few months the appearance of the fumes was largely confined to valley lands, adjacent to, or radiating from, the Ducktown basin, or streams emptying therein, or lands unprotected by hilly or mountainous or other character of barriers. During the spring and summer of 1906, however, the fumes appear to have had greater carrying power, have reached higher altitudes, gone further, and passed barriers which theretofore protected localities previously immune therefrom. The fumes have not only appeared in localities theretofore exempt from same, and at greater distance from the plants of said copper companies, but said fumes were at times present in said localities in greater strength and volume than theretofore noticed

by deponent in localities much nearer to defendants' plant. In sections where said smoke and fumes had theretofore been noticeable, said smoke and fumes would at times be present in greater strength and density than was customary when the fumes theretofore put in their appearance.

Much of the country in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year were raised throughout said section, the winter-growing crops consisting largely of wheat, rye, and small grain generally, and the market or garden truck of turnips, collards, mustard and like winter-growing vegetables. The farms, prior to the appearance of the fumes and vapors mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in good condition.

The timber interests in the section of Georgia in which deponent resides, are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white and chestnut oak, and other varieties, the white pine, spruce, yellow pine, hemlock and other conifers or trees of the evergreen variety being in leaf throughout the winter. Since the appearance of said fumes conditions of forests, orchards and farms have changed. Large quantities of timber have died, orchards have been destroyed and killed, crops have failed, and much grain, which escaped to reach maturity, rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and fruit-trees throughout considerable areas are utterly ruined. Many farms have been abandoned to wild lands or permitted forfeited to the State for non-payment of taxes. The destruction of timber, crops, orchards and gardens has been greater during the spring and summer of 1906 than during any previous spring and summer, and the territory subject to such destruction much larger than ever before.

Under existing conditions farming throughout said section will soon be a thing of the past, as no farm can be successfully conducted under same. In addition, the complete and utter destruction of timber and orchards is near at hand, for, should the injury to and death of timber in the future progress as it has each year since the appearance of said fumes and vapors, but a short time will be required to complete the destruction which is already wide-spread.

NAME.	OCCUPATION.	LENGTH OF RESIDENCE. YEARS.	DISTRICT.
J. R. Ballew	Farmer	40	40
Lon Dillard	"	31	30
I. N. Horten	"	25	25
W. O. Mull	"	40	40
I. H. Roberson	"	4	4
M. A. Farmer	"	21	21
W. S. Smith	"	40	40
L. S. Smith	"	20	20

Sworn to and subscribed before me, this 10th day of September, 1906.

JOHN F. MCNEELY,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 22 years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year

throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for nonpayment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns, cultivates and resides on a small farm in said county and district located about ten miles southwest from the furnaces of defendants. On many occasion during the spring and summer of the present year the smoke and fumes from the furnaces of defendants came down upon the farm, crops and timber of deponent in very great volume and strength. If the fumes were present in the early morning the effect upon the vegetation could be readily observed in the afternoon of the same day. The bean, pea and Irish potato vines would present the appearance in the evening of having been burnt or frost-bitten,

although no frost had fallen. The ragweeds would also be affected in the same manner. The leaves on the trees would be scorched, blistered and browned. They are now, and for some time have been, falling to the ground.

The smoke and fumes from the furnaces of defendants have been present in the neighborhood of deponent more frequently this spring and summer (1906), and in much greater volume and strength than during any other year, and the damages wrought thereby have been much greater than during any forme ryear. The damage to timber and crops in the aggregate this year is more than double that of any other three years combined.

MIKE MERRILL.

Sworn to and subscribed before me, this 12th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for three years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year

throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent resides on and cultivates a farm in said district and county, located about nine miles from the furnaces of defendants. Deponent has been three years on the same farm. On a great many occasions during the spring and summer of this year the smoke and fumes from defendants' furnaces came down on said farm and the crops planted and growing thereon.

Soon after the same would lift and be blown away deponent noticed that pea, bean and Irish potato vines, beets and other vegetables would wilt down and turn white, as though they had been burnt by fire or frost-bitten. The corn was also affected

in the same manner. The leaves on the trees have been scorched and browned and are now falling off. There has been no frost to bite growing crops this season, or forest fires to affect the leaves on the timber. The damage done to crops and timber this season has been much greater than in the other two years past and previous to this year combined.

W. W. DOOLEY.

Sworn to and subscribed before me, this 12th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 53 years, deponent's residence being in the Sugar Creek district of said county. Deponent it engaged in the business of farming and dairying, and is a property-holder in said county.

Deponent is a resident of said State and county, and has been for thirty-three years, deponent's residence being in the Hemptown district of said county. Deponent is engaged in the business of merchandise, etc., and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are dis-

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore, two crops per year

throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns and resides on a farm in said county and district located seven miles south of defendants' furnaces. At various times during this past spring and summer (1906), and especially on the fourth day of July, the smoke and fumes from defendants' furnaces came down on deponent's farm, and as soon as the same had cleared away the bean, pea and Irish potato, tomato and cucumber vines were scalded and blistered. The corn has been injured and damaged at various times during its entire growing season. It will not produce exceeding a half crop. The blades on the cron have rotted until nothing is left but the

stems. The leaves on the fruit and forest trees on deponent's farm have been killed by the fumes, and the fruit has been dwarfed and is of little or no value. The damage done this year to fruit crops and timber greatly exceeds that of any previous year, and territory heretofore affected by these fumes has been very greatly extended.

B. C. ARP.

Sworn to and subscribed before me, this 13th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 40 years, deponent's residence being in the Morganton district of said county. Deponent is engaged in the business of farming and is a property-holder in said county.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the past few months. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing

farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent resides at Morgantown, about fourteen miles from defendants' furnaces. Deponent, during the summer of this year, has often and at various times observed the appearance of the fumes from said furnaces on the farm which he cultivates, in great volume and strength. After the fumes had cleared away, deponent noticed that his bean and pea vines had been scorched and blistered. The corn was also affected in the same manner. The leaves on the timber were browned and killed, and are now falling to

the ground. The territory affected by these fumes has been very much widespread and extended during this summer.

DAVE DICKEY.

Sworn to and subscribed before me, this 13th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of farming and is a property-holder in said county.

Deponent is a resident of said State and county, is a property-holder in said county, and is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location

of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance

of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent resides on and cultivates a farm in said county and district located about ten miles from the furnaces of The Tennessee Copper Company, and about thirteen miles from that of the Ducktown Sulphur, Copper and Iron Company, the two defendants in the above-styled case. During the last spring and summer (1906) the smoke and sulphur fumes from the defendants' furnaces, located at McCay and Isabella, Tenn., came down on the farm aforesaid cultivated by deponent in very great volume and strength. Deponent does not now remember the exact dates of the visitations referred to. Soon after the smoke and fumes were lifted and blown away deponent noticed that his pea, bean and Irish potato vines were scorched and blistered and very greatly injured and damaged. The leaves on the timber in deponent's neighborhood have been browned and seared and

are now falling to the ground in great quantities as in late fall after the falling of very severe frosts. The damages done to timber, orchards and crops of all kinds this past summer and spring (1906) has been much greater than ever before. The erection of the high stack by The Tennessee Copper Company at McCay, Tenn., has very greatly extended the territory formerly affected b ythe smoke and fumes from defendants' furnaces.

A WEHUNT.

Sworn to and subscribed before me, this 12th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 36 years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of farmer, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the ap-

pearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: This deponent lives in Sugar Creek district, Fannin county, Ga., some twelve miles from defendants' works. On the 27th of August, 1906, the smoke and fumes from the defendants' mines came down in great volume on his home farm, and within a few hours after it was lifted or dispelled, it blistered and seared the bean vines like a heavy frost had fallen, and killed nearly all of them. In June this same year, viz., 1906, the smoke killed our flowers, potatoes, peas and beans and watermelon vines at the same time. During this same time the timber, too, showed the effects, the leaves turned brown and seared for miles around my home, and the whole country shows as if a frost had hit it within four or five days after the smoke was present.

J. W. THOMAS.

Sworn to and subscribed before me, this 29th day of August, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer:

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been fo forurten years, deponent's residence being in the—— district of said county. Deponent is engaged in the business of farming and gardening and is a property-holder of said county.

Deponent is a resident of said State and county, and has been for forty-five years, deponents residence being in the tenth district, second section of said county. Deponent is engaged in the business of farmer and lumberman, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It

is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, yellow pine,

hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns and resides on a small farm about one mile from Blue Ridge, Ga., and about ewelve miles south of defendants' furnaces at Ducktown. Deponent is engaged in the business of market gardening, and cultivates grapes, strawberries, tomatoes, peas, beans, cabbage, beets, Irish potatoes, turnips and other things usually raised by market gardeners. At various times during the past spring and summer (1906) the smoke and poisonous fumes from the defendant's furnaces came down on his said farm, and the growing vegetables above mentioned, in great volume and strength, and soon after the same had blown away the various vegetables above mentioned, and the grapes and corn, would become scorched, burned and blistered, and in many instances the same would be totally ruined and destroyed. It is impossible to engage in the business of growing vegetables for market, or home use, in the territory affected as deponent's farm has been this season by the smoke and fumes from defendants' furnaces, to any profit. Deponent has been cultivating his said farm as a market gardener for the past six years, and for about three years of that time with reasonable and fair profits. About three years ago the fumes from defendants' furnaces began to make their appearance on his said farm,

affecting his said crops more or less. The injurious effects on his market truck has been gradually increasing from year to year, but the injury done to same during this past spring and summer has been greater than in all former years combined. The erection of the high stack by The Tennessee Copper Company this year has greatly aggravated the situation. The smoke and fumes are present more often and in much greater volume and strength than ever before. The leaves on the timber in and about deponent's farm—and, in fact, for miles adjacent thereto—have been browned and seared by these fumes, and are now falling to the ground as in late fall after the falling of frost. The smoke and fumes this season from defendants' furnaces have completely put deponent out of business as a market gardener. That which has not been completely killed has been so dwarfed as to render it unsalable in market.

WM. BRINKLEY.

Sworn to and subscribed before me, this 11th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 33 years, deponent's residende being in the Sugar Creek district of said county. Deponent is engaged in the business of——and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge

of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for nonpayment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent resides on and cultivates a small farm in said county and district located about nine miles southeast of defendants' furnaces. Deponent also owns another small farm located in Flint Hill district of said county, about seven miles southwest of defendants' furnaces. On frequent occasions during this summer the smoke and fumes from defendants' furnaces came down on the farm which deponent cultivates in great volume and strength, and soon after it lifted the bean, pea and Irish potato vines were scorched and blistered, and were greatly damaged. The leaves on the fruit trees and forest trees were also affected in the same manner. This caused the fruit to shed before maturity. The leaves on practically all of the growing trees in deponent's neighborhood have been thus affected, and have fallen to the ground in great quantities. The damages wrought by these fumes have been largely increased during this year.

JAMES B. GODFREY.

Sworn to and subscribed before me, this 13th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 30 years, deponent's residence being in the Noontootly district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge

of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have

been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns and resides on a farm located in Noontootly district, near the foot of the Blue Ridge mountains, about thirty miles south of the copper plants of defendants. In the early part of June, 1906, the smoke and fumes from defendants' furnaces came down on the farm of deponent, located as aforesaid, and soon thereafter the bean vines wilted and the young corn growing in a field on the south side of an elevation was scorched, blistered and turned white, presenting the appearance of having been severely frostbitten. The corn afterwards grew out, but has been very greatly injured, and its yield will be cut considerably short this season on this account. The leaves on the trees in deponent's community have been killed and are now falling to the ground, and the forests now have the appearance of having been burnt, although thre has been no forest fires in said community. At about this time deponent was in Gilmer county at New Liberty church, some thirty-four miles from defendants' furnaces, when the smoke came down in that section of country and produced the same effect upon timber and vegetation as described in reference to deponent's farm in Fannin county. The erection of the high stack by The Tennessee Copper Company has served only to increase the extent of the territory heretofore injured and damaged by defendant's furnaces.

R. W. Woody.

Sworn to and subscribed before me, this 31st day of August, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 46 years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge

of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been aban-

doned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows, to wit: Deponent owns, cultivates and resides on a farm in said district and county, about eight miles south of defendants' furnaces at McCay, Tenn. Sometime in the month of June, 1906, the smoke and fumes from defendants' furnaces came down upon the farm of deponent in great volume and strength, and deponent had about one-half acre planted in Irish potatoes which were then in a fine growing condition with good prospects of making a very large yield. Soon after the smoke and fumes cleared away the vines of the potatoes appeared to be frostbitten and turned black. Alongside of the Irish potato patch deponent had also a sweet potato patch, and they were injured in the same way. The potatoes have been cut short by reason of this injury about one-half.

Deponent has formerly made an affidavit in this case, and he now adds the facts herein stated, and the additional fact that the damage and injury to timber, crops and vegetation in deponent's section has been greatly increased since the erection by The Tennessee Copper Company's high stack. Much more damage in every way has been done since.

J. E. Cochran.

Sworn to and subscribed before me, this 3d day of September, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 40 years, deponent's residenbe being in the Cold Well district of said county. Deponent is engaged in the business of——and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities

of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

Deponent owns a farm located in said county and within sixteen miles southwest of defendants' copper plant. The timber on my place has been at least one-third killed. The smoke and fumes from defendants' works is often observed in my community, and has been for the last four years, and until its appearance, the timber in deponent's community has been in a healthy, sound and growing condition.

N. D. DYER.

Sworn to and subscribed before me, this 30th day of August, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 32 years, deponent's residence being in the Noontootly district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns and cultivates a farm located in Noontootly district, of Fannin county, and situate about twenty-two miles directly south of defendants' furnaces. On or about the tenth day of August, 1906, the smoke and sulphur fumes from defendants' furnaces made their appearance on the farm of deponent and generally in deponent's community, in great volume and strength. Soon after it lifted deponent noticed the growing corn on his said farm had been bitten in the bud, and about the ground blades as though bitten by a severe frost. The beans, leaves and vines, tomato vines were scorched, burnt and blistered, and soon wilted, presenting the appearance of being frostbitten. The peach and apple trees and growing timber were at the same time affected likewise. The damage done to timber and vegetation in deponent's section of the county has been very greatly increased since the erection of the high stack by The Tennessee Copper Company.

J. W. Davis.

Sworn to and subscribed before me, this .. day of ....., 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 37 years, deponent's residence being in the 844th district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and, cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have

been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation is at this time—September 7, 1906—that the atmosphere is full of smoke, the sunshine so weak it is almost impossible to cure hay or fodder. I have a small apple and peach orchard and hardly got one of either that was fit to eat. They all rotted before maturity; also beans, cabbage, and all other garden truck. The timber looks almost like there had been a killing frost, and a good deal of it is dying.

C. L. TILLEY.

Sworn to and subscribed before me, this 7th day of September, 1906.

BENJ. M. TILLEY,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 37 years, deponent's residence being in the Hemptown or 1308 district of said county. Deponent is engaged in the business of farming and lumbering, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have

failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns, cultivates and resides on a farm in said county and district, located at head of Hampton Valley, about twenty-one miles from defendants' furnaces. During the month of June of 1906 deponent saw watermelon vines after the appearance of the smoke and fumes from defendants' furnaces, on the farm of John Cook, scorched and blistered, and the ragweeds on the farm of R. T. Weaver, in the same condition. The leaves on the blackjack, red oak and hickory trees in deponent's section all scorched, browned and seared, and are falling to the ground as in the late fall after the falling of frost. The damage wrought to timber and vegetation in deponent's section by these fumes is very much greater than ever before. Deponent knows of no other condition in his section which does or could produce the effects mentioned.

J. W. Cook.

Sworn to and subscribed before me, this 5th day of September, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty-one years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have

been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows, to wit: Deponent owns and cultivates a farm in said district and county, on which he resides, and located about thirteen miles south of defendants' furnaces. Some time in the month of June in this year the smoke and fumes from defendants' furnaces came down on the farm of deponent and that of other farmers in his community, and soon thereafter the corn, beans, leaves on fruit and other trees were scorched, burned, seared and blistered. The peaches have rotted and have been entirely destroyed. The leaves on the timber in deponent's section are now falling to the ground. The damage done to timber and vegetation has been much greater in deponent's section of Fannin county than at any time since the defendants have been operating their plants. The erection by The Tennessee Copper Company of the high stack has had the effect of carrying the smoke and fumes from de- quently has very greatly extended the territory heretofore affected injuriously by these fumes.

S. C. DAVENPORT.

Sworn to and subscribed before me, this 3d day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for forty-five years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of ——— and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it ket truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: During the month of June of this year the smoke and fumes from defendants' works came down on deponent's farm in great volume and strength, and soon thereafter the bean vines growing on my farm wilted down and had the appearance of having experienced a severe frost. The ragweeds and other tender vegetation were killed summer the timber and vegetation on deponent's farm had been only slightly damaged by the fumes from defendants' in the same manner. Deponent's farm is located about seven miles south of defendants' works. Up until this spring and works. Now the timber on deponent's farm, and as far as deponent can see it, at least one-third of it is damaged. The leaves have turned brown and falling to the ground as in the late fall. The erection of the high stack by The Tennessee Copper Company has only aggravated the trouble.

D. A. McKinney.

Sworn to and subscribed before me, this 30th day of August, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for thirty-eight years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have

been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer.

Deponent owns, cultivates and resides on a farm in said district and county, located about twelve miles south of the furnaces of defendants. In the month of June of this year the smoke and fumes from said furnaces came down on deponent's farm in great volume and strength, and soon after it cleared away deponent noticed that the ragweeds, bean and pea vines wilted down. About ten days ago the same thing occurred again, producing the same effects.

Since the erection of the high stack by The Tennessee Copper Company, the territory heretofore injuriously affected by said fumes from said furnaces has been very greatly extended. The leaves on the timber this year in deponent's section have been scorched, browned and seared, and are now falling to the ground as in late fall after heavy frost.

W. R. Coneldy.

Sworn to and subscribed before me, this 5th day of September, 1906.

Thos. A. Brown,

Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 29 years, deponent's residence being in the Toccoa district of said county. Deponent is engaged in the business of farmer, and is a property holder in said county, and is tax receiver of said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have

failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns and cultivates a farm, situated in said district and county, located about ten miles from defendants' copper furnaces. In the latter part of June, 1906, the smoke and fumes from defendants' furnaces came down on the farm of deponent on the Toccoa river and again and at several days in the first of July following. As soon as the fumes lifted the ragweeds, bean vines and the corn appeared to be frostbitten, and were turned white. The fumes from said furnaces have done more damage to timber and vegetation this year than ever before. The damage done has been greater this year than in four years previously put together, there having been more or less damage done to timber and vegetation for the last four years before this. The leaves on the timber have been browned and seared by these fumes this year, and are now falling to the ground, as in the late fall after frost.

A. L. Jones.

Sworn to and subscribed before me, this 5th day of September, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 55 years, deponent's residence being in the Noontootly district of said county. Deponent is engaged in the business of farmer and is a property holder of said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and sohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have

been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: I live at the Wilscot mountain, about twenty-odd miles south of the smelting plant of the Ducktown Copper Company. Since the high smokestack has been erected the fumes of said company is much stronger than before. The timber and vegetables, fruit and cereals that seemed to resist the smoke to some extent, has now for this year (1906) all been more or less affected, and some of them totally destroyed. Corn in this section is nearly a failure. One heavy blast of the smoke swept over this section about the middle of June. Many weeds and much timber dying in a little while. The sides of th ehills and mountains towards the mines now look as if a great part of the timber had been deadened; the leaves are falling, and in many places the ground is covered nearly enough to burn over. Most of the peaches stopped growing about the middle of June, rotted and fell off. The trees are yellow and sickly. Prior to this year the trees were healthy and green. The elements have not been clear, nor the sky blue, this year in this vicinity.

BENJ. M. TILLEY, N. P., J. P.

Sworn to and subscribed before me, this 5th day of September, 1906.

W. A. WILSON,

J. P. and Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 49 years, deponent's residence being in the Caldwell district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor or fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have

been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring summer.

Deponent owns and resides on a farm in Fannin county, located about eight miles southwest of defendants' copper furnaces. The smoke and fumes from these plants for several years past has been observed in the community in which deponent resides in greater or less quantity, doing more or less damage to timber and vegetation. But during the last spring and present summer the smoke and deadly gases and fumes generated by defendants' copper plants have been observed in much greater volume and strength than ever before. The damage done to timber, especially, has been much greater and more noticeable than ever before. On my farm, and within sight thereof, the leaves on the timber have been scorched, browned and seared, and present the appearance of having been frost-bitten, and the leaves are now at the date of this affidavit falling to the ground, as is the case in this country in the months of October and November, after the falling of frost. The damage done in deponent's community this year is two or three times greater than that done in the last two or three years previously put together. The erection of the high stack by the Tennessee Copper company has only served to give the fumes from the copper works greater carrying power and consequently Tennessee Copper Company has only served to give the fumes Deponent has traveled considerably over the county northwest of Blue Ridge, and the same conditions which prevail in my community obtain throughout this section of Fannin county.

M. B. WILLIAMSON, JR.

Sworn to and subscribed before me, this 30th day of August, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for fifty years, deponent's residence being in the Morganton district of said county. Deponent is engaged in the business of farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have

been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns, cultivates and resides on a farm in said district and county, located about fifteen miles southeast of defendants' furnaces. Deponent has a small peach orchard on his said farm, and said peach trees were well fruited this season. About the 20th of June, 1906, the smoke and fumes from defendants' furnaces came down on said orchards and peach trees, and within a few days thereafter the leaves on the said peach trees became parched, and the peaches, which had about reached maturity, shriveled up and fell off, and the entire crop was a total loss. A great deal of the leaves on other trees in the forest were affected likewise. The leaves on the timber in deponent's section are now falling off.

T. P. Butts.

Sworn to and subscribed before me, this 10th day of September, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 19 years, deponent's residence being in the.... district of said county. Deponent is engaged in the business of farmer and stock trader, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically

identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have

failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer.

Deponent has been engaged for the last two years in the business of cattle inspector for Fannin county, under appointment of the secretary of Agriculture of the State of Georgia. In the performance of his duty as such deponent has traveled almost over the entire county, and has had good opportunity to observe the conditions prevailing in the county for the last two years. Deponent has observed that the extent of the territory of this county affected by the smoke and fumes from defendants' furnaces has been much extended. Deponent this season has noticed the effects of it on the leaves near his home, twenty-five miles from defendants' furnaces, where it was not noticed last year. The leaves on the trees in my section of the county have been browned and seared during this season.

E. W. SHELTON.

Sworn to and subscribed before me, this 10th day of September, 1906.

THOS. A. BROWN.
Notary Public, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 13 years, deponent's residence being in the 913th district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge

of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have

been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation: In one section of said county, which is in Morganton district, deponent owns 217 acres of land, the majority of which is used for farming purposes. The fumes or gas of said smoke has done great injury to the present crops, more so this year than ever before. The effect on the timber in and around said section is visible for miles away. Foliage is as yellow or brown as is usual in October to November.

E. L. PRINCE, M.D.

L. C. Allen, sworn and says he has lived on Toccoa river, fifteen miles southeast of Ducktown twenty years; that he has noticed the effect of the gas or smoke on the timber and farm products, and they are greater this spring and summer than ever before; that they have gradually grew worse all the time. Deponent knows these state of facts from personal observation.

L. C. ALLEN.

Sworn to and subscribed before me, this 18th day of September, 1906.

G. D. NIXON,

J. P. and Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 34 years, deponent's residence being in the 7th district of said county. Deponent is engaged in the business of farming, and is a property-holder in said county.

Deponent is a resident of said State and county, is a property-holder in said county, and is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes, and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character

of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and heretofore two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the or-

chards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been abandoned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation and that at this writing—September. 18th. The damage to timber and vegetables is rapidly on the increase. That deponent has a fine situation and large orchards of peaches and apples that seldom ever failed to produce a profitable crop, even when other nearby orchards would be a total failure. There was a full crop in the spring of 1906, giving promise of an enormous crop till peaches was about one-half grown. The smoke kept settling so dense, and the fumes so strong that they all turned black, and most of them fell off, and the rest just dried up; leaves also looked as though they had been severely frostbitten; would turn yellow and then black and then dry up and fall off, and the appearance now is that many of them will die.

Beans, peas, cabbage, oats and corn is almost a total failure in the immediate locality where deponent lives. Even crab grass, which formerly grew abundantly, is a total failure.

CHARLEY A. SHELL.

Sworn to and subscribed before me, this 18th day of September, 1906.

BENJAMIN M. TILLEY,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for one year, deponent's residence being in the Flint Hill district of said county. Deponent is engaged in the business of principal of Epworth Seminary and is a property-holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or could produce either such haze, vapor, or odor. Deponent has observed this vapor whenever the wind was from defendants' mines. This vapor is denser in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisture. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk.

The smoke and fumes were often present in such volume

and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation:

Deponent further says that he has frequently noticed throughout this and adjoining counties the blighted condition of vegetation and the dead and dying timber, and has no doubt but that the damage has been done entirely by the smoke from the smelters. The school of which deponent is principal is situated about three to four miles from the mines, in a region naturally beautiful and attractive, well wooded and productive, but everywhere about the school property timber has been damaged and farms rendered unprofitable. The situation has become serious to the best interests of the school in two ways: 1st. Several of the patrons have been forced to abandon their homes and farms and seek more profitable locations, thus withdrawing their children from the school; and, second, many families who remain have been financially affected until they are not able to keep their children in school. In addition to these damages deponent has found difficulty in drawing students from a distance, as parents object to sending their childrendren where they think it will be unhealthy. The seminary is situated on an eminence and from deponent's office windows the timber presents the appearance of having been frostbitten, showing brown and seared.

MILTON R. EASTLOCK.

We, the undersigned, assistant teachers of Epworth Seminary, have read the above affidavit and know the facts stated therein to be true.

C. E. CLEMENT,
DORA A. WILLINGHAM,
SUSAN H. BRECK.

Sworn to and subscribed before me, this 29th day of August, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared the undersigned who, being duly sworn in the above-entitled cause, deposes and says:

Deponent is a resident of said State and county, and has been for 25 years, deponent's residence being in the Sugar Creek district of said county. Deponent is engaged in the business of Farmer and is a property holder in said county.

Deponent is familiar with farming conditions, timber interests, farms, lands, orchards and forests throughout his locality, and is also familiar with the location of defendants' furnaces.

Within the past two or three years the furnaces of defendants have been smelting large quantities of sulphurous copper ore. This process of smelting throws off what appears to the eye to be a gray haze or vapor. It is perceptible to the eyes and has a deleterious effect upon them. It likewise possesses a peculiar odor, which is foul and exceedingly offensive. It is different from anything which deponent has ever experienced.

The color, the haze, the effect upon the eyes, the character of the odor, its peculiar unpleasant effect, all serve to physically identify beyond a question the vapor of fumes which are discharged from the furnaces of the defendants.

There is not in any section of said county, to the knowledge of any of deponents, any mercantile or manufacturing enterprise or natural condition of affairs which ever has, does, or observed this vapor whenever the wind was from defendants' mines. This vapor is dense in character and has a tendency to settle toward the earth, and especially when the air is dense or heavy with moisure. The odor, color and cohesiveness of the mist or haze is greater upon such occasions than when the air is clear, bright and dry.

The settling of this mist or vapor is not a thing which occasionally occurs during the year. It has within the past two or three years been a matter of repeated occurrence. This vapor has been generally noticed by the citizens and residents, and has caused extensive comment.

This has been particularly the case during the past spring and summer of 1906. The smoke has been noticeable much more frequently than theretofore, and was present in greater volume and strength than theretofore observed. In addition, while previously the smoke and fumes were usually apparent only late in the afternoon, at night and in the early morning, during the last few months the fumes and vapors were at times present during all hours of the day and night.

Much of the county in which deponent resides is devoted to agricultural purposes, and, heretofore, two crops per year throughout said section were harvested, the winter-growing farm crops consisting mainly of wheat, rye, barley and small grain generally, and the market or garden truck of turnips, collards, mustard and the like. The farms, prior to the appearance of the fumes and vapors before mentioned, were, as a rule, profitable, and were cultivated from year to year, and were generally in a good condition.

The timber interests in the section of Georgia in which deponent is located are exceedingly large and valuable. Among the species of trees found are white pine, spruce, yellow pine, hemlock, white oak, chestnut oak, chestnut, hickory and other varieties, the white pine, spruce, yellow pine and hemlock being in leaf through the winter.

Since the appearance of said fumes the conditions of the orchards, forests and farms have changed. Large quantities of timber have died, orchards have been destroyed, crops have failed, and grain which reached maturity has rotted in the husk. Some species of timber, such as hickory and chestnut oak, have been practically exterminated, and many farms have been aban-

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doned to wild lands or allowed forfeited for non-payment of taxes.

The destruction of timber, crops, gardens and orchards has been greater during the past (1906) spring and summer than ever before, and the region subject thereto much enlarged.

The smoke and fumes were often present in such volume and strength that immediately after their appearance the vegetation seemed scorched and blistered, and looked as though it had experienced a severe frost. Often growing crops or market truck was killed in a single night.

This has been especially the case during the past spring and summer. Among the instances coming directly under the deponent's observation are as follows: Deponent owns, cultivates and resides on a farm about six miles from the furnaces of defendants. On the 31st day of August, 1906, the fumes from these furnaces came down on the farm of deponent in great volume and strength. The fumes on this occasion scorched, blistered, killed the ragweeds, pea and bean vines, and soon they presented the appearance of having been frostbitten, though no frost had fallen. The fumes from their furnaces have made their appearance for several years in this county, but never so often, and in such volume and strength until during this spring and summer. The leaves on the timber in nearly every section of Fannin county have this year been scorched and browned, and they are now falling in great quantities, as is usual in late fall after frost. The erection of the high stack by The Tennessee Copper Company has made the situation much worse this year than ever before since the defendants have been operating their mines.

T. W. WRIGHT.

Sworn to and subscribed before me, this 6th day of September, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

I

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Gilmer.

Personally appeared Sherman Martin who, first being duly sworn in the above-styled and numbered cause, deposes and says:

That he is forty-nine years of age, farmer and laborer by occupation. Has recently been in the employe of The Tennessee Copper Company at their mines and works in Polk county, Tennessee.

Deponent has read the minutes of a mass-meeting of so-called Georgia citizens, reported to have been held at Harpertown Storehouse, in Fannin county, Georgia, February 3, 1906, called to consider the litigation between the State of Georgia and The Tennessee Copper Company, and from the same it would appear that this deponent had attended this meeting and gave permission for his name to be signed thereto.

Deponent states that at the time this meeting was reported to have been held, that he was at work for The Tennessee Copper Company in their mines under ground, and did not attend said meeting, sign said minutes, or give permission to any one to sign same in his name, or in his stead.

Deponent further states that he is the owner of forty acres of land in Polk county, Tennessee, on which was located at one time a fine, healthy orchard, but same has long since been killed and utterly ruined by the fumes from the copper plants in Polk county, Tennessee, and the ground ruined, so as to be unfit for cultivation.

Deponent further states that he has worked for the above mines off and on for something like ten years, but that he can not stand the gases, fumes and smoke that are generated at this plant for any length of time, and that he is compelled, on account of his health, to give up a job there to seek work in a more healthy climate at even less wages than he can obtain by working for the copper companies in Tennessee. That he is now living in Georgia on this account.

Deponent has read the list of names attached to the said petition above referred to, and while he does not know all the names that appear thereon, he has recognized 158 of the same as appear hereafter as either being employed, directly or indirectly, by either one of the two companies above referred to in their mines, stores, trains or works in Polk county, Tennessee, either at the time or date of this petition, or shortly before or thereafter.

Deponent was advised when in the employ of the above company and at the time this above meeting was held, that the company desired all of its employees who lived in Georgia to attend this meeting, and they were told that they would be allowed full time to do so, and that they would not be docked for any loss of time while attending same.

The names signed to said petition above referred to are as follows:

III

A. J. Stone.
J. A. Caylor.
O. S. Poe.
O. F. Mitchell.
S. B. Thomas.
W. L. Copper.
Jas. Hawkins.
John Fuller.
S. Bennett.
Arch Ballew.
G. D. Tankersley.
Joseph Owens.
J. C. Turner.
W. M. Webb.
S. E. Jones.
W. L. Scroggs.
W. H. Robinson.
J. B. Ricketts.
J. W. Miller.
N. T. Phillips.
J. P. Baker.
W. P. Key.
R. A. Culberson.
W. A. Welch.
L. L. Tilley.
C. L. Parris.
W. W. Thrasher.
G. W. Falls.
J. H. Drennen.
B. H. Dooley.
E. P. Galloway.
W. A. Frazier.
Jas. Harper.
J. Nix.
J. N. Peeples.
Wm. Mitchell.
Sherman Martin.
J. E. Caylor.
J. M. Bell.
H. G. Ledford.

J. M. Stone.
M. E. Colwell.
W. P. Walker.
J. M. Falls.
Wm. Garren.
F. M. Williams.
B. B. Bearden.
N. G. Golden.
J. E. Fulbright.
J. H. Mull.
J. O. Rider.
T. B. Turner.
W. L. Shope.
J. E. Wilson.
W. M. Self.
C. C. Andrews.
J. A. White.
H. B. Ross.
W. D. Hawkins.
F. L. Harper.
J. D Beavers.
A. Arp.
J. W. Stanley.
Chas. Jones.
M. H. Bennett.
John McFarland.
W. M. Stewman.
D. R. Paine.
L. R Woody.
W. H. Anderson.
C. W. Jones
L. B. Patterson.
J. L. Williams.
G. D. Angel.
J. C. Bonner.
J. C. Davenport.
J. A. Hampton.
J. B. Wittenburger
G. W. Self.
J. R. Harper.

W. C. Tanner.
W. McFarland.
N. D. Parris.
E. W. Howell.
A. B. Smith.
E. L. Gurley.
S. M. Falls.
W. G. White.
H. A. Shelton.
A. M. Johnson.
R. M. Caylor.
J. M. Withrow.
W. H. Evans.
J. R. Tankersley.
W. P. Thomas.
J. E. Green.
Wm. Dillards.
J. J. Jones.
Herbert Weese.
C. C. Vellenoweth.
O. P. Tilley.
H. F. Scruggs.
M. McFarland.
J. H. Shelton.
A. J. Brown.
J. E. Adams.
H. C. Parris.
J. N. Hughes.
E. F. Hughes.
L. I. Tilley.
A. J. Baker.
R. J. Cook.
E. M. Flowers.
W. S. Sisson.
H. Roberts.
H. C. Paine.
Burt Bailey.
J. A. Corlis.
W. C. Garren.

W. W. Fulbright.
J. W. Wright.
F. Ellis.
John Jones.
D. M. Weeks.
J. W. Robinson.
A. C. Cook.
J. C. Baker.
J. P. Ellis.
L. C. Bonner.
J. J. Withrow.
J. N. Standridge.
J. B. Green.
H. R Woody.
L. C. Turner.
W. H. White.
A. N. Long.
E. W. Chapman.
J. M. Garren.
B. H. Waldon.
S. H. Dean.
J. T. Fry.
A. D. Angel.
J. F. Brown.
Jas. Pitman.
H. F. Williams.
L. C. Henson.
T. J. Talley.
H. J. Dupree.
J. T. Dickey.
C J. Watson.
H. M. Craig.
F. T. Sargent.
W. G. Fry.
J. R. Poe.
J. C. Bowers.
D. D. Weaver.
John Davis.
J. J. Groves.

SHERMAN MARTIN.

Sworn to and subscribed before me, this 12th day of April, 1906.

W. T. PICKETT,
Notary Public, Gilmer county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared before me J. A. Tipton, a notary public in and for said county, an officer of said State duly authorized to administer oaths, C. C. Andrews who, after being duly sworn, deposes and says on oath, in relation to the above-styled and numbered cast, as follows, to wit:

Deponent was present at and signed a petition and certain resolutions passed at what purported to be a mass-meeting held at Harper's store, near McCay, Tenn., to protest against the further prosecution of the suit of the State of Georgia against the copper companies at Ducktown, Tenn., now pending in the Supreme Court of the United States.

There were no farmers, and only a few merchants, doing business at or near McCay, present at said meet. Fully 19/20 of the persons who attended said meeting and signed the resolutions were employees of the two defendant companies, largely of The Tennessee Copper Company, many of whom are not residents of Georgia—persons, in fact, who have no fixed residence anywhere. The employees of this last-named company

were instructed and required by the several foremen of the company to be on hand at said meeting.

C. C. ANDREWS.

Sworn to and subscribed before me, this April 14th, 1906.

J. A. TIPTON,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared before the undersigned, a notary public in and for said county, an officer of said State duly authorized to administer oaths, J. A. Tipton who, after being duly sworn, deposes and says, on oath, in relation to the above-styled and stated case as follows, to wit:

Deponent is a citizen of said county, and was one of the persons attending a mass-meeting held at Harper's store, near McCay, Tenn., for the purpose of petitioning the Governor and Attorney-General of this State not to prosecute further the suit of the State of Georgia, by its Attorney-General, John

C. Hart, against The Tennessee Copper Company and The Ducktown Sulphur, Copper and Iron Company (Limited), now pending in the Supreme Court of the United States. Deponent signed the petition and resolutions passed at said meeting, and afterwards sent to the said Governor and Attorney-General of this State.

Deponent resides at McCay, Tenn., and is very familiar with the works of the defendant companies, and knows many of the employees of the said companies, and especially the employees of The Tennessee Copper Company. Deponent says that more than nineteen-twentieths of the persons who attended said mass-meeting and signed said petition and resolutions were employees of The Tennessee Copper Company, and of the other defendant company, practically all of them being employees of the first-mentioned company. There was not a farmer present at said meeting who signed said petition or resolutions. There were several merchants who are doing business at and near McCay present, who took part in the meeting. Deponent saw the employees of The Tennessee Copper Company coming to the place where said meeting was held in crowds and droves, they being easily distinguishable by the fact that they had on overalls and jumpers, and were coming directly from the copper company's works, and after the meeting was over returned to the works of the said Tennessee Copper Company. There were not more than one dozen, or fifteen persons on the ground before these employees came, and not more than this number left after said employees had retired. Many of these employees who attended this meeting are, in the opinion of deponent, not residents of Georgia, or Fannin county. There were more persons as employees of said companies present than resided on the Georgia side of the State line.

Deponent says further that the petition and resolutions which the committee, appointed at said meeting by the chairman, reported, were typewritten and not prepared by said committee, but were prepared before the time said mass-meeting met.

Deponent further says that he had a conversation with one of the employees of The Tennessee Copper Company who was present at said meeting, who informed this deponent that the foremen of The Tennessee Copper Company had notified all the employees of the company the evening preceding said mass-meeting, that all the employees of said company were expected

by the company to be present and on hand at said meeting to be held next day at Harper's store. Deponent says that the greater number of said employees of said company who attended said mass-meeting are persons who have no permanent residence or citizenship anywhere, for the reason they reside at no one place long enough to obtain either. Affiant makes this statement under oath, after he has made a careful examination of the names of the persons who signed said petition and resolution, and is based upon the further fact that he is well acquainted with most of those whose names appear signed thereto.

J. A. TIPTON.

Sworn to and subscribed to before me, this April 14th, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared before the undersigned, a notary public in and for said county and State, duly authorized to administer oaths, W. A. Daves who, after being duly sworn in the above-

styled and numbered cause, deposed and says, in relation to said cause: That affiant is the present ordinary of the county of Fannin, State of Georgia, and as such officer he has in his custody and control the tax-digest for said county for the year 1905, and that the same is now of file in his office in the city of Blue Ridge, in said county.

Affiant further says that he has examined the list of names signed to a certain petition addressed to the Governor and Attorney-General of the State of Georgia, which petition undertook to inform said State officials that the people of Fannin county were opposed to the State of Georgia interfering in any way with the present operation of the above-stated copper companies, and which said petition purports to have been signed by residents of said county at a mass-meeting held at Harper's store, near McCay, Tenn., and that he has compared the names appearing on said petition with the names of persons appearing on the said tax-digest for the year 1905, and now of file in the office of the ordinary of the county of Fannin. Affiant made a careful examination of said names appearing on said petition and of those appearing on said tax-digest, and a very careful comparison of the names appearing upon each, and that he is able to state the exact result of said examination and comparison.

Affiant further says that of the names appearing on said petition, the following do not appear on said tax-digest for the year 1905, either as poll or property taxpayers of said county of Fannin, to wit:

H. N. Corliss, A. J. Stone, J. A. Caylor, W. G. Smith, O. S. Poe, S. B. Thomas, W. L. Cooper, S. Jones, S. Bennett, Arch. Ballew, G. D. Tanklersley, Jas. Owen, J. C. Turner, W. M. Webb, S. E. Jones, W. L. Scroggs, J. B. Ricketts, W. Miller, N. T. Phillips, M. E. Caldwell, W. P. Walker, J. H. Burns, Wm. Garron, J. D. Thomason, B. B. Bearden, N. G. Golden, A. F. Burns, M. L. Burns, J. E. Fulbright, J. H. Mull, J. O. Rider, T. B. Turner, J. M. Carr, C. G. Smith, W. M. Self, Jeff. A. Hedden, E. Block, C. C. Andrews, J. A. White, G. W. Guy, W. McFarland, E. W. Howell, E. B. Tabor, A. B. Smith, E. L. Gurley, W. G. White, H. A. Shelton, G. C. Bailey, Andrew Hill, A. M. Johnson, R. M. Caylor, W. H. Smith, W. H. Evans, F. E. Evans, Wm. Dillards, J. J. Jones, Herbert Weese, C. C. Vallenoweth, J. W. Wright, M. D. Richards, F. Ellis, John Jones, W. T. Mahaferty, O. D. Elrod, D. B. Bollins, J. H. Baldridge, J. W. Robinson, J. H. Brock, L. C. Cook, G. C.

IX

Baker, J. P. Ellis, O. M. Baldridge, L. C. Bonner, R. L. Cochran, J. N. Standridge, J. B. Green, F. M. Parris, L. C. Turner, W. H. White, A. N. Long, J. P. Baker, T. B. Cole, W. P. Key, R. A. Culberson, L. L. Tilley, C. L. Parris (who was a member of the committee on resolutions at said meeting), H. L. Collector, G. W. Falls, W. A. Smith, R. L. Kell, S. S. Frady, J. H. Drennon, B. H. Dooly, G. W. Jones, E. P. Galloway, W. F. Frazier, J. J. Nix, J. N. Peebles, J. A. Keenon, Sherman Martin, J. H. Kisselburg, J. E. Caylor, J. M. Bell, J. W. Fortner, H. G. Ledford, J. L. Ledford, G. W. Stevens, W. B. Coppage, A. Arp, Charles Jones, H. M. Bramblet, John McFarland, W. G. Woody, J. E. Garron, W. J. Wood, F. W. Jarrard, W. N. Stewman, J. H. Farmer, D. R. Payne, L. A. Woody, J. C. Standridge, J. H. Cook, C. W. Jones, L. B. Patterson, J. L. Williams, G. D. Angel, J. C. Bonner, G. E. Crawford, H. N. Ashe, R. A. Burns, C. C. Davenport, W. A. Williams, W. M. Harris, J. M. Chauncey, A. M. White, J. B. Whittenberger, G. W. Self, W. C. Tanner, G. Standridge, O. P. Tilley, H. F. Scroggs, L. Walker, T. L. Campbell, M. McFarland, T. H. Lively, I. D. Jenson, W. W. Mitchell, D. L. Parris, W. A. Curtis, E. M. Cagle, D. C. Allison, D. W. Painter, A. J. Brown, J. N. Hughes, E. F. Hughes, B. B. Anderson, L. I. Tilley, L. B. Parris, A. J. Kell, J. F. Kell, J. F. Curtis, A. J. Barker, J. N. Parker, R. J. Cook, J. G. Woody, Geo. E. Keith, J. H. Pulliam, James Gates, W. T. Elrod, E. M. Flowers, W. S. Sisson, H. Roberts, H. G. Payne, Joe Harbin, R. A. Nalor, Burt Bailey, J. A. Corliss, B. A. Corliss, M. V. Kell, G. C. Dooly, W. C. Garron, B. H. Waldon, H. C. Baker, John Smith, J. T. Frye, J. F. Justice, A. D. Angel, J. F. Brown, Jas. Pittman, H. F. Williams, M. Gates, Geo. Elrod, L. C. Henson, T. J. Talley, H. J. DuPree, Walter Lilley, John Conrad, R. H. Garrett, W. W. Painter, C. J. Watson, L. H. Tilley, W. M. Dooly, J. S. Mathews, F. T. Sawgent, W. C. Frye, L. Beliles, C. W. Ballew, R. L. Standridge, W. S. Thomas, Roland Pope, L. J. Elrod, J. R. Poe, O. U. Langston, J. C. Bowers, D. D. Beaver, John Davis, W. H. Sisson, G. C. Hughes, J. J. Groves and J. M. Stone, the same constituting in number, on said petition and not on said digest, two hundred and twenty-five names.

W. A. Daves.

Sworn to and subscribed before me, this 3d day of April, 1906.

Thos. A. Brown,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Fannin.

In person appeared before the undersigned, an officer of said State, duly authorized to administer oaths, Thos. A. Brown who, after being duly sworn, deposes and says on oath: That he had a conversation with Gus. Smith, B. B. Bennett and W. A. Calhoun in relation to their names appearing to an affidavit signed by 125 persons claiming to be residents of Fannin county, as it appears published in the argument, brief and exhibits of Tennessee Copper Company, on pages 114, 115, 116 and 117, filed by defendants' attorney in the above-styled and numbered case, and that affiant read said published affidavit to Bennett and Calhoun, and stated from memory the substance of the same to Smith, and asked each of them if they, or either of them, signed or authorized their names signed to the said published affidavit. Each of them stated that they did not, but did authorize their names signed to an affidavit for the company on or about the eleventh day of November, 1905, but not to one like the one read to them. The affidavit which G. G. Hyatt, notary public, read to them, was a statement that the smoke from the defendant companies' furnaces had not injured vegetation and timber for a distance of seventy miles, but for a

distance of only about seven or eight miles from them, and that in their opinion the public roads had not been injured by it. These parties in said conversation further stated that they had authorized no one to sign their names to a statement that there was no lands in Fannin county adapted to argiculture, or that there was no other market except that afforded by the defendants for produce or labor within a distance of fifty miles of the defendants' plants. Deponent asked them to make affidavit as to these statements and they refused to do so. Smith and Bennett stated that some twenty-five other persons signed the affidavit as read to them at the same time as themselves, and under the same circumstances.

THOS. A. BROWN.

Sworn to and subscribed before me, this January 29, 1906.

J. R. KINCAID,
Clerk of the superior court, Fannin county, Ga.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Fannin.

Personally appeared before the undersigned, a notary public in and for said State and county, A. S. Jones who, after being

duly sworn, deposes and says on oath, in relation to the above-stated case, that he is one of the persons whose name is signed to an affidavit purporting to have been made before G. G. Hyatt, a notary public for Polk county, Tennessee, on the eleventh day of November, 1905, and 124 other persons, a copy of which affidavit has been read to him as the same appears on pages 114, 115, 116 and 117 of the "argument, brief and exhibits of Tennessee Copper Company on application of plaintiff for preliminary restraining order," filed by Howard Cornick and John H. Frantz, attorneys for Tennessee Copper Company, and Martin H. Vogel, of counsel.

Affiant further deposes and says that no such affidavit containing the statements which appear in said published affidavit was ever read over to him, or the other some fifty or seventy-five employees of The Tennessee Copper Company, who were present and signed, as we thought, the affidavit which was read to them on or about the eleventh day of November, 1905, nor did he sign or authorize any one else to sign his name to any affidavit for the defendant companies which contained the statements which appear in said filed and published affidavit.

Affiant further says that the person who read to him and the other persons who signed an affidavit in his presence was John Rollins, and not G. G. Hyatt, notary public for Polk county. This man Hyatt, whose name is signed to this affidavit as a notary public, is an attorney at law who represents The Tennessee Copper Company, locally. The person who pretended to read to us the affidavit which it was desired that we sign, instead of reading to affiant and the other persons who were at the same time asked to sign it, did not read an affidavit like the one filed and published, but read an entirely different one. The affidavit as read to me and others was to the effect that the fumes from defendants' furnaces had not, as alleged in the suit of the State of Georgia against the defendant companies, injured, damaged or killed vegetation and timber to a distance of seventy miles from the furnaces of defendant, but only for a distance of seven or eight miles from them, and that the public roads had not been injured by the fumes. This was the sort of an affidavit which deponent thought he was signing, and not one which stated in substance that there was no land in Fannin county adapted to agriculture or market for labor or produce within fifty miles of the defendants' copper plants. Affiant is a deputy sheriff in Fannin county, and was at the

time said affidavit was misread to deponent, in the employ of The Tennessee Copper Company, as were all the other persons whose names are signed to said published affidavit.

A. S. JONES.

Sworn to and subscribed before me, this January 29, 1906.

THOS. A. BROWN,
Notary Public, Fannin county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Union.

Personally appeared before me the undersigned authority, W. L. Bowling, who being first duly sworn herein on his oath did say: That he is a United States deputy marshal, and a resident of Union county, State of Georgia; that on the eleventh day of November, 1905, the following named persons were charged with having violated the internal revenue laws in said county, to wit: T. C. Helton, J. A. Thomason and M. Voiles.

Further, that said named persons were not on the eleventh

day of November, 1905, in said county of Union, being then fugitives from justice.

W. L. BOWLING.

Subscribed and sworn to before me, this 31st day of March, 1906.

W. E. CANDLER,
Notary Public, Union county, Georgia.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Towns.

Personally appeared before the undersigned authority W. J. Burrell who, being first duly sworn herein, on his oath did say: That he is a resident of Towns county, State of Georgia, and is sheriff of said county; that about fifteen years ago a man by the name of Anderson came to Towns county and remained there a few months, but that since that time there has been no one residing in said county by the name of J. M. Anderson or W. A. Anderson; that during the past twelve or fifteen years there has never been a resident of said county by the

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name of John Blarey; that there is no one residing in said county by the name of T. C. Ramey, but that formerly there was a party by the name of T. C. Ramsey in said county, and that this deponent has held two State warrants for said T. C. Ramsey for the past four years, and that during that time said Ramsey has remained outside the jurisdiction of the State of Georgia. Further, that this deponent now has in his possession a warrant for J. L. Coffey, issued upon a charge of assault with intent to murder, and that said J. L. Coffey has not been in Towns county, State of Georgia, to the knowledge of this deponent, during the past two or three years. That during the past twelve or fifteen years there has been no resident of said county named J. B. Amey; there has, however, been a resident of said county named J. B. Ramey, and this deponent says that he has four warrants for the arrest of J. B. Ramey, and that said Ramey, to the knowledge of this deponent, has not been in Towns county during the past four years.

Further, that there is no resident of Towns county by the name of J. M. Barnes; that heretofore there was a man named J. M. Barnes living in said county, but that he left the county two or three years ago to avoid service of a State warrant.

Further this deponent says that he knows C. J. Carroll and Carl Carroll; that they are men of small means, and that during the past four or five years they have spent only a small amount of time in Towns county.

W. J. BURRELL.

Subscribed and sworn to before me, this 5th day of April, 1906.

JOHN H. DAVIS,
Notary Public, Towns county, Georgia.

My commission expires on 28th March, 1907.

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In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

In Equity.

STATE OF GEORGIA—County of Towns:

Personally appeared before the undersigned authority J. B. Johnson who, being first duly sworn herein, on his oath did say: That he is a United States deputy marshal, and a resident of Towns county, State of Georgia, and has resided in said county continuously for more than ten years; that during his residence in said county there has been no one living in that county by the name of John Blarey; that the only person by the name of J. M. Barnes, who ever resided in said county, moved away more than two years ago, and has not returned since that time; that during the past ten years there never has been any person residing in Towns county named D. M. Anderson or W. A. Anderson; that the United States marshal for the past few years has held warrants for the arrest of the only person who ever resided in that county by the name of A. Y. Hooper, and that said A. Y. Hooper was sentenced to the Federal Prison in Atlanta last spring for violation of the internal revenue laws. Further, there is no resident of said county named J. B. Amey; that heretofore there was a resident of said county named J. B. Ramey, and that the United States marshal has for the past two years held warrants for the arrest of said J. B. Ramey; that

during the past ten years there has been several warrants issued for J. W. Ferguson, and that during the greater part of said time J. W. Ferguson has either been serving sentence in Federal prison, or residing outside of Towns county.

Subscribed and sworn to before me, this 4th day of April, 1906.

J. B. JOHNSON.
JOHN H. DAVIS,
Notary Public. Towns county, Georgia.

My commission expires March 28, 1907.

In the Supreme Court of the United States

October Term, 1906

THE STATE OF GEORGIA, BY ITS ATTORNEY-GENERAL, JOHN C. HART,
Plaintiff,

vs.

THE TENNESSEE COPPER COMPANY AND THE DUCKTOWN SULPHUR, COPPER AND IRON COMPANY (LIMITED),
Defendants.

} In Equity.

STATE OF GEORGIA—County of Union.

Personally appeared before me the undersigned authority, S. A. Pless who, being first duly sworn herein on oath, did says: That he is a resident of Union county, State of Georgia, and is sheriff of said county. That there was no one by the name of J. T. Dyre residing in said county of Union on the eleventh day of November, 1905, nor at any time since that

date. That there has been a resident of said county named J. F. Dyre, and that said Dyre was heretofore indicted for violating a State law, and is now outside the jurisdiction of the State of Georgia.

S. A. PLESS.

Subscribed and sworn to before me, this 31st day of March, 6.

W. E. CANDLER,
Notary Public, Union county, Georgia.